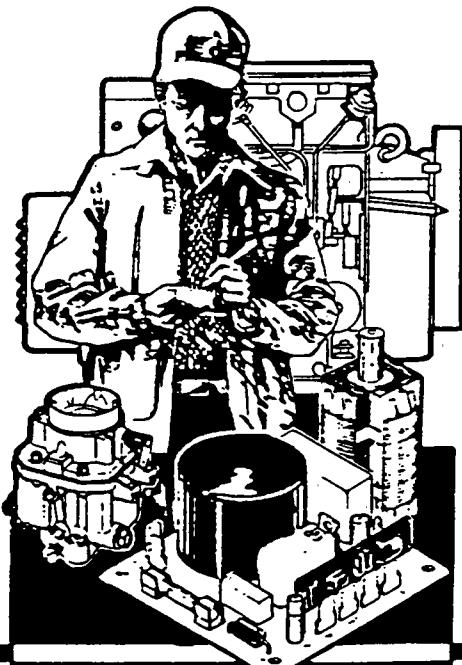


Onan

Parts Manual

AJ

GenSet



Onan Service Parts

**924-0221
1-90 (SPEC P)
Replaces 4-82 (Spec A-N)
Printed in U.S.A.**

SAFETY PRECAUTIONS

The following symbols are used in Onan manuals to alert users to the potentially dangerous conditions relating to maintenance of the equipment and replacement of parts. Please read and observe.

DANGER *This symbol warns of immediate hazards which will result in severe personal injury or death.*

WARNING *This symbol refers to a hazard or unsafe practice which can result in severe personal injury or death.*

CAUTION *This symbol refers to a hazard or unsafe practice which can result in personal injury or product or property damage.*

MODEL IDENTIFICATION

To avoid errors or delay in filling your parts order, always give the MODEL, SPEC NO., and SERIAL NO. from the Onan nameplate.

For handy reference, insert your nameplate information in the spaces below:

MODEL AND SPEC NO.

SERIAL NO.

PRODUCT SAFETY PRECAUTIONS

WARNING

Contact with USED ENGINE OILS has been identified by a United States federal agency and some USA state agencies as causing CANCER or REPRODUCTIVE TOXICITY. When checking or changing engine oils take all necessary precautions not to ingest, breathe the fumes or contact the used oil.

WARNING

Contact with ASBESTOS has been identified by a United States federal agency and some USA state agencies as causing CANCER or REPRODUCTIVE TOXICITY. When handling engine gaskets take all necessary precautions not to ingest, breathe or contact the dust from the gaskets! Use adequate ventilation and wear protective gloves, masks and clothing!

WARNING

Contact with BENZINE and LEAD, found in gasoline, fuel additives and solvents has been identified by a United States federal agency and some USA agencies as causing CANCER or REPRODUCTIVE TOXICITY. When checking, draining or adding gasoline and fuel additives, or using solvents take all necessary precautions not to ingest, breathe the fumes, or contact the liquids. Use adequate ventilation and wear protective gloves, masks and clothing!

Introduction

This catalog applies to the AJ generating sets as listed below and factory installed options. Parts are arranged in groups of related items. Each illustrated part is identified by a reference number corresponding to the same reference number in the parts list for that group. Parts illustrations are typical. Using the MODEL and SPEC NO. from the set nameplate, select the Parts Key No. (1, 2, etc., in the last column) that applies to your Generator Set Model and Spec No. This Parts Key No. represents parts that differ between models. Unless otherwise mentioned in the description, parts are interchangeable between models. Right and left sides are determined by facing the engine end (front) of the set.

Generator Set Data Table

MODEL AND SPEC NO.*	ELECTRICAL DATA					PARTS KEY NO.
	TYPE	WATTS	VOLTS†	HERTZ	RPM	
.8AJ-51M/ .8AJ-52M/ 1.0AJ-1M/ 1.0AJ-2M/	Manual	800	120AC	50	1500	1
	Manual	800	240AC	50	1500	
	Manual	1000	120AC	60	1800	
	Manual	1000	240AC	60	1800	
.8AJ-51R/ .8AJ-52R/ 1.0AJ-1R/ 1.0AJ-2R/	Remote	800	120AC	50	1500	2
	Remote	800	240AC	50	1500	
	Remote	1000	120AC	60	1800	
	Remote	1000	240AC	60	1800	
1.5AJ-224E/ 1.5AJ-232E/	Battery Charger	1500	24	DC	2400	3
		1500	32	DC	2400	
2.0AJ-51M/ 2.0AJ-52M/ 2.5AJ-1M/ (2.5AJ-EA) 2.5AJ-2M/	Manual	2000	120AC	50	3000	4
	Manual	2000	240AC	50	3000	
	Manual	2500	120AC	60	3600	
	Manual	2500	240AC	60	3600	
	Portable	2000	120AC	50	3000	
2.0AJ-52P/ (2.0AJ-AU) 2.5AJ-1P/ (2.5AJ-AA) 2.5AJ-2P/	Portable	2000	240AC	50	3000	5
	Portable	2500	120AC	60	3600	
	Portable	2500	240AC	60	3600	
	Portable	2500	240AC	60	3600	
2.0AJ-53M/ 2.5AJ-3M/ (2.5AJ-EB)	Manual	2000	120/240AC	50	3000	6
	Manual	2500	120/240AC	60	3600	
2.0AJ-53P/ (2.0AJ-AN) 2.5AJ-3P/ (2.5AJ-AB)	Portable	2000	120/240AC	50	3000	7
	Portable	2500	120/240AC	60	3600	
2.0AJ-51F/ 2.0AJ-52R/ 2.5AJ-2R/ 2.5AJ-1R/	Remote	2000	120AC	50	3000	8
	Remote	2000	240AC	50	3000	
	Remote	2500	240AC	60	3600	
	Remote	2500	120AC	60	3600	
2.0AJ-53R/ 2.5AJ-3R/	Remote	2000	120/240AC	50	3000	9
	Remote	2500	120/240AC	60	3600	
1.5AJ-115M/	Manual	1500	115	DC	2600	10
2.0AJ-AU	Portable		240AC	50	1500	

* - Spec Letter advances with manufacturing changes (A to B, B to C, etc.)

† - Reference to 120, 240, and 120/240 volt also applies to 115, 230, and 115/230 volt.

STANDARD GENERATOR PARTS SECTION

This section contains the Engine, Generator and Control parts used on standard units listed in the Generator Set Data Table.

Index

Adapter, Air Cleaner 13
Ammeter, Charge 35
Armature Assembly 27,31
Arm and Shaft, Governor 7

Backplate Assembly, Magneto 24
Baffle, Breather 5
Ball, Fly - Governor 9
Band, Tank - Fuel 17
Base, Oil 6
Bearing - Camshaft - Precision 5
Bearing - Crankshaft - Precision 5
Block Assembly, Cylinder 5
Block, Terminal 35
Blower, Cooling - Generator 27,33
Bolt, Carriage 25
Bowl, Filter - Fuel 13
Box, Control 35
Box, Mounting - Heat Sink 35
Box, Receptacle 23
Bracket, Housing - Choke 14
Bracket, Mounting - Blower Housing 19
Bracket, Mounting - Fuel Tank 17
Bracket, Mounting - Resistor 20
Bracket, Mounting - Receptacle 23
Brush, Commutator - Generator 29,33
Bushing, Spacing - Cushion 25

Cable, Battery 35
Cable, Plug - Spark 24
Camshaft 9
Cap, Tank - Fuel 17
Carburetor Parts, Optional 42,43,44,45,46
Carburetor, Gasoline 13,15,16
Channel, Mounting - Engine 21
Clamp, Muffler 18
Cleaner, Air 13
Clip, Link - Governor 7
Clip, Pin - Piston 10
Coil 24
Coil Assembly, Field - Generator 29,33
Commutator 27,31
Condenser 20,24,39,33
Control 35
Control, Idlematic 48
Cord, Rewind - Starter 22
Coupling, Pipe 18
Cover, Air Opening - Generator 33
Cover, Box - Control 35
Cover, End - Generator 29,33
Cover, Points - Contact 20
Cover, Spring - Governor 7
Cover, Starter 22
Cover, Valve 5
Crankshaft 8
Cup, Cleaner - Air 13
Cup, Engaging - Starter 22
Cup, Governor 9
Cup, Intake - Oil Pump 6
Cushion, Upper & Lower 25

Dipper, Rod - Connecting 10
Diode 35
Dolly (Optional) 49

Elbow, Adapter 17
Elbow, Fuel Filter - 45° 13
Elbow, Male - Inverted 13,17
Elbow, Street - 90° 13,18
Element, Choke - Electric 14
Element, Cleaner - Air 13

Filter, Fuel 13
Flange, Middle 22
Flywheel 8
Frame, Carrying 21
Fuel System, Gasoline 13
Fuel System, Optional 38,39,40,41

Gasket Kit, Bearing Plate to Engine 5
Gasket, Adapter to Carburetor 13
Gasket, Base - Oil 6
Gasket, Cover - Valve 5
Gasket, Fill Plug 5
Gasket, Filter - Fuel 13
Gasket, Guide - Plunger 20
Gasket, Head - Cylinder 5
Gasket, Mounting - Air Cleaner 13
Gasket, Mounting - Carburetor 13
Gasket, Mounting - Fuel Pump 13
Gasket, Mounting - Gearcase 7
Gasket, Valve Guide - Intake 5
Gear, Crankshaft 8
Gearcase Assembly 7
Generator 27,29,31,33
Grommet, Leads - Diode 35
Grommet, Rubber 17
Guard, Light - Pilot 23
Guide, Brush - Generator 29,33
Guide, Valve 5

Handle, Cord - Starter 22
Hardware, Mounting 25
Head, Cylinder 5
Hose, Breather 5
Hose, Tank to Filter 17
Housing, Air 19
Housing, Blower 19
Hub, Cup - Governor 9

Ignition System 24
Insert, Seat - Exhaust Valve 5
Insulator, Current - Reverse 35

Joint, Ball 7

Key, Flywheel 8
Key, Gear - Crankshaft 8
Kit, Gasket - Carburetor 15
Kit, Gasket - Oil Pump 6
Kit, Relay 35
Kit, Repair - Carburetor 15,16
Kit, Repair - Fuel Pump 11
Kit, Screw - Throttle Adjusting 15,16
Kit, Starter 22
Kits, Service & Miscellaneous 36
Knob, Hold Down - Air Cleaner 13

Index

Lamp, Light - Pilot 23
Lever, Brake - Starter 22
Line, Fuel 17
Link, Governor Arm to Carburetor 7
Lock, Spring Retainer - Valve 5
Miscellaneous Parts (Optional) 55
Muffler, Exhaust 18

Nipple, Hex 13
Nipple, Pipe 18

Pan, Oil 6
Pin, Center 9
Pin, Centering - Starter 22
Pin, Cotter - Governor Yoke 7
Pin, Dowel - Gear Cover Align 5
Pin, Piston 10
Pin, Roll 7
Piston & Pin Assembly 10
Plate, Bearing - Rear 5
Plate, Flyball - Governor 9
Plate, Mounting - Carburetor 13
Plate, Shoe - Friction 22
Plug, Drain - Oil 6
Plug, Expansion 5
Plug, Fill - Oil 5
Plug, Spark 24
Plunger Assembly 20
Plunger, By-Pass - Oil 6
Point Set 20,24
Pump Assembly, Oil 6
Pump, Fuel 11

Receptacles 23
Rectifier 29
Relay, Current - Reverse 35
Relay, Start - Disconnect 35
Resistor, Charge 35
Retainer, Valve - Intake 5
Rig Assembly, Brush - Generator 29,33
Ring, Adapter - Starter 22
Ring, Collector - Generator 27,31
Ring, Lock 8,9

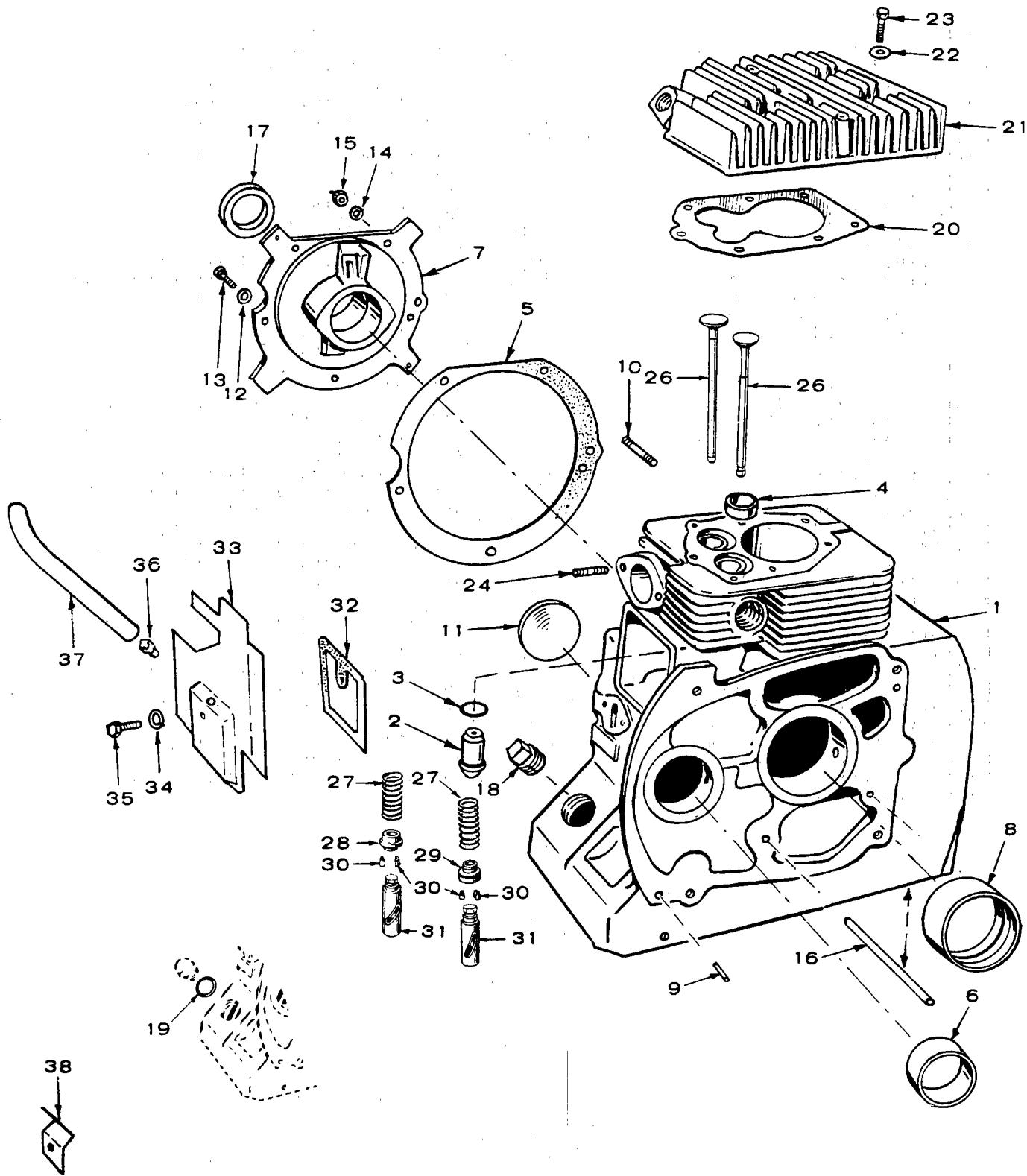
Ring, Retainer 22
Rod, Connecting 10
Roller, Rope - Starter 22
Rope and Handle 8
Rotocap, Valve - Exhaust 5
Rotor, Sheave - Rope 22

Scroll, Air - Generator 29
Seal, Oil 5
Seal, Ring - "O" 13
Set, Ring 10
Sheave, Rope 8
Sink, Heat 35
Spacer, Flyball - Governor 9
Spacer, Mounting - Carburetor 13
Spacer, Mounting - Scroll 29
Spring, By-Pass - Oil 6
Spring, Governor 7
Spring, Rewind 22
Spring, Valve 5
Starter Kit 22
Starter, Readi-Pull - Heavy Duty (Optional) 51
Strap, Ground 21
Strip, Asbestos 18
Stud, Adjusting - Governor 7
Stud, Air Cleaner to Adapter 13
Stud, Armature 27,31
Stud, Plate - Rear Bearing 5
Switch, Charge Rate - Hi-Lo 35
Switch, Solenoid - Start 35
Switch, Start - Stop 35

Tank, Day - Reservoir (Optional) 47
Tank, Fuel 17
Tappet, Valve 5
Terminal, Solderless - Ground 35
Tube, Exhaust 18
Tube, Oil - Crankcase 5,6

Vacu-Flo Cooling System (Optional) 52
Valve, Breather 5
Valve, Intake and Exhaust 5

Cylinder Block

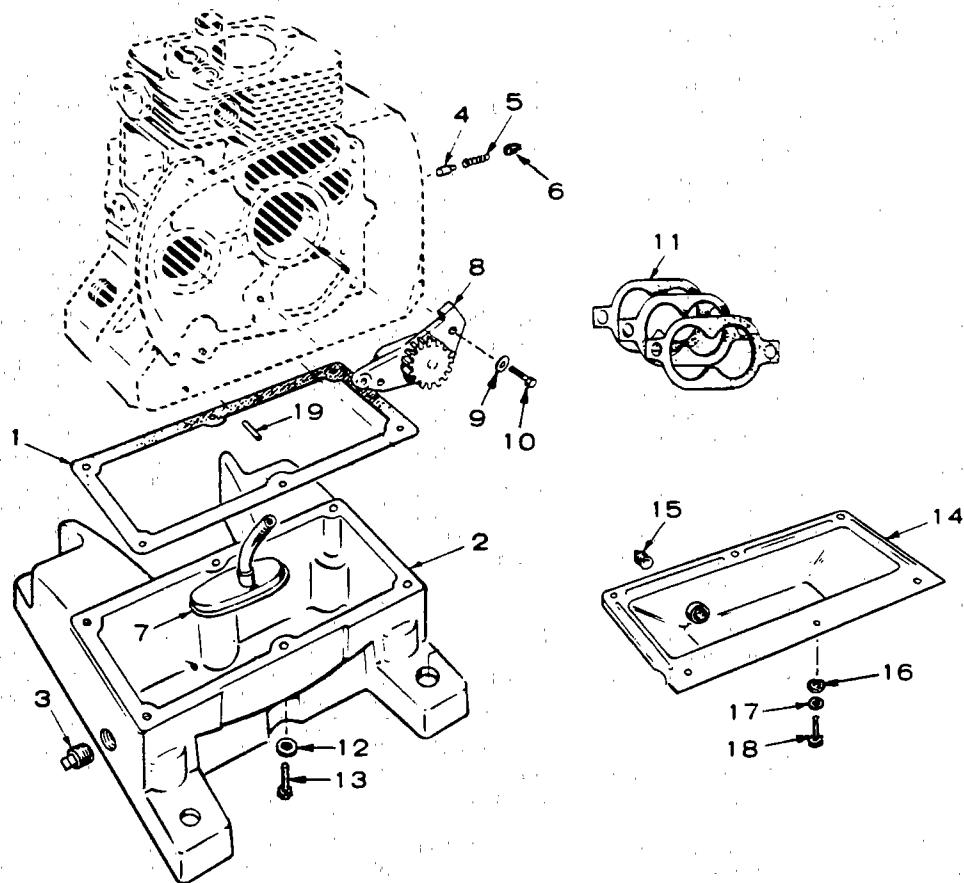


Cylinder Block

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Block Assembly, Cylinder (Includes Parts Marked *)	15	110-0445	4	*Nut, Hex (Special)
110-0876	1		Key 1,2,10	16	120-0387	1	*Tube, Crankcase Oil - Keys 4 through 9 (Also Key 3, 24 Volt Output - Begin Spec J)
110-0877	1		Key 3 (24 Volt Output, Begin Spec J)	17	509-0041	1	Seal, Oil - (NOTE: Available in Overhaul Gasket Kit 168-0062)
110-0876	1		Key 3 (24 Volt Output, Spec A through H)	18	505-0130	1	Plug, Oil Fill (3/4") (Cast Iron)
110-0876	1		Key 3 (32 Volt Output)	19		1	Gasket, Fill Plug (Order 505-0130 Plug)
110-0877	1		Key 4 through 9	20	110-0836	1	Gasket, Cylinder Head
2 110-0441	2		*Guide, Valve	21	110-1778	1	Head, Cylinder
3 110-0068	1		*Gasket, Valve Guide - Intake Insert, Exhaust Valve Seat	22	526-0122	7	Washer, Flat (11/32" ID x 2-3/32" OD x 10 Gauge Thk)
4			* Standard	23			Screw, Cap - Hex Head (Special)
110-0826	1		.002" Oversize	110-0879		4	(Special)
110-0826-02	1		.005" Oversize	110-0284		3	Stud, Carburetor Mounting
110-0826-05	1		.010" Oversize	24	520-0632	2	Begin Spec K (1/4 x 1-1/2") Specs A through J (1/4 x 1-9/16")
110-0826-10	1		.025" Oversize	520-0363		2	Valve
110-0826-25	1			26	110-0828	1	Intake
5 101-0257	1		*Gasket Kit, Bearing Plate to Engine	110-0827		1	Exhaust
6 101-0367	2		*Bearing, Camshaft - Precision	27	110-0609	2	Spring, Valve
7			*plate, Rear Bearing (Less Bearing)	28	110-0558	1	Retainer, Intake Valve
101-0233	1		Key 1,2,10 (Also Key 3, 24 Volt Output - Specs A through H)	29	110-0540	1	Rotocap, Exhaust Valve
101-0252	1		Keys 4 through 9 (Also Key 3, 24 Volt Output - Begin Spec J)	30	110-0008	4	Lock, Valve Spring Retainer
101-0404	1		Sets With Low Oil Pressure Cut-Off - Key 3 (Begin Spec J) Keys 4 through 9 (Begin Spec F)	31	115-0006	2	Tappet, Valve Standard
8			Bearing, Crankshaft - Precision	115-0006-05		2	.005" Oversize
101-0290	2		* Standard	32	110-0832	1	Gasket, Valve Cover
101-0290-02	2		.002" Undersize	33	110-0840	1	Cover, Valve
101-0290-10	2		.010" Undersize	34	526-0063	1	Washer, Flat - Copper (17/64" ID x 7/16" OD x 1/32" Thk)
101-0290-20	2		.020" Undersize	35	800-0015	1	Screw, Cap - Hex Head (1/4-20 x 3")
101-0290-30	2		.030" Undersize	36	123-0486	1	Valve, Breather
9 516-0012	2		*Pin, Dowel - Gear Cover Align (1/4 x 5/8")	37	503-0736	1	Hose, Breather (Not used on Key 3, 24 Volt Output - Begin Spec J)
10 520-0526	4		*Stud, Rear Bearing Plate (5/16 x 1-1/4")	38	123-0788	1	Baffle, Breather - Key 3, 24 Volt Output - Begin Spec J
11 517-0048	1		*Plug, Expansion (1-5/8" Dia.)				
12 526-0065	1		*Washer, Flat (21/64" ID x 9/16" OD x 1/16" Thk)				
13 800-0028	1		*Screw, Cap - Hex Head (5/16-18 x 1")				
14 850-0045	4		*Washer, Lock - Spring (5/16")				

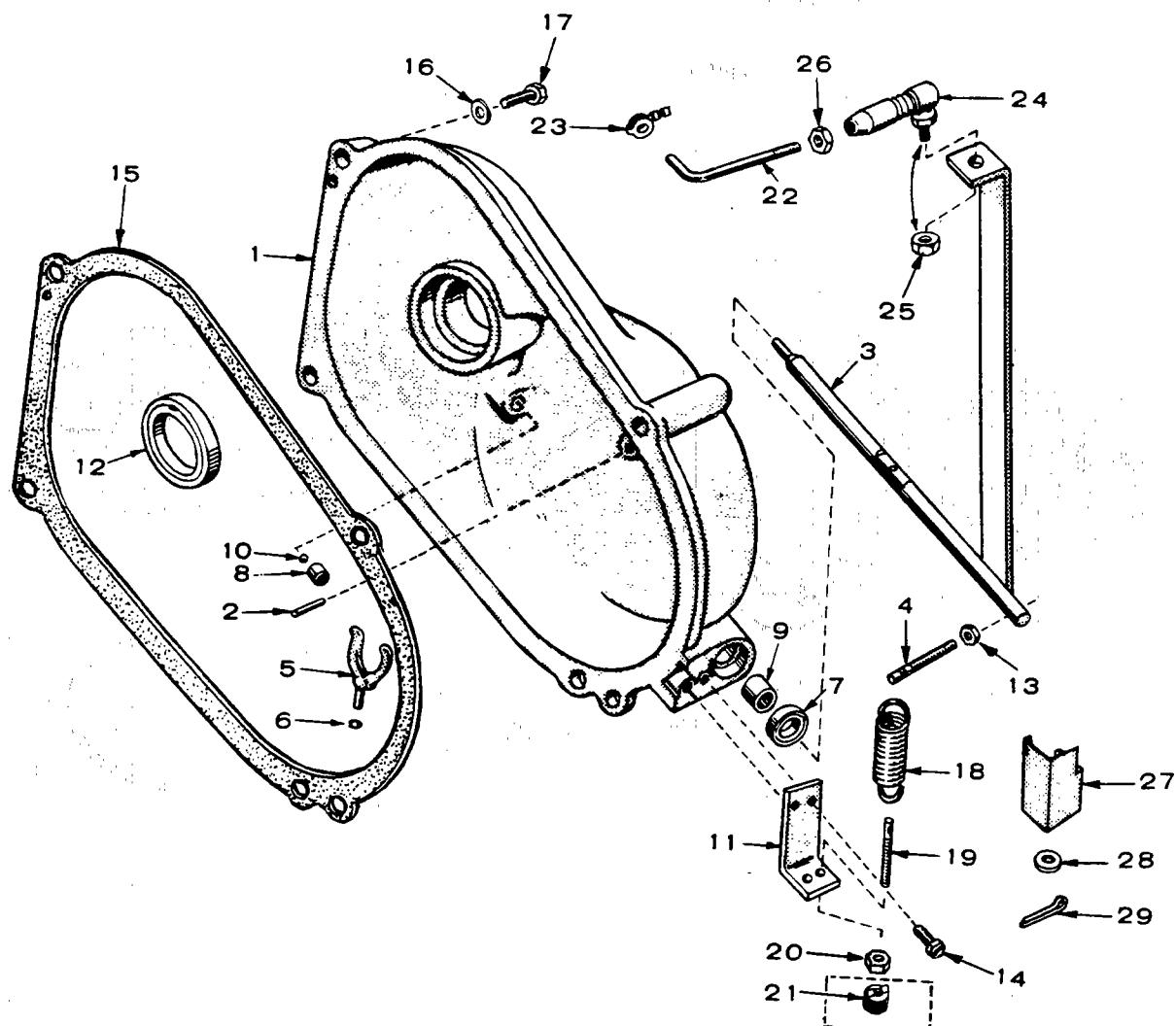
* - Parts Included in Cylinder Block Assembly.

Oil System



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	102-0018	1	Gasket, Oil Base or Pan Mounting	9	850-0040	2	Washer, Lock - Spring (1/4") - Keys 4 through 9 (Also Key 3, 24 Volt Output - Begin Spec J)
2	102-0439	1	Keys 1,2,3,4,6,8,9,10	10	800-0007	2	Screw, Cap - Hex Head (1/4-20 x 1") - Keys 4 through 9 (Also Key 3, 24 Volt Output - Begin Spec J)
	102-0452	1	Units with Oil Base Heater - Keys 1,2,3,4,6,8,9,10	11	120-0161	1	Kit, Gasket - Oil Pump - Keys 4 through 9 (Also Key 3, 24 Volt Output - Begin Spec J)
3	505-0110	1	Plug, Oil Drain (3/8") - Keys 1,2,3,4,6,8,9,10	12	850-0050	6	Washer, Lock - Spring (3/8") - Keys 1,2,3,4,6,8,9,10
4	120-0012	1	Plunger, Oil By-Pass - Keys 4,5,6,7,8,9 (Also Key 3, 24 Volt Output - Begin Spec J)	13	102-0455	3	Screw, Cap - Hex Head - Key 1,2,3,4,6,8,9,10
5	120-0140	1	Spring, Oil By-Pass - Keys 4,5,6,7,8,9 (Also Key 3, 24 Volt Output - Begin Spec J)	14	800-0053	3	3/8-16 x 1-1/4"
6	505-0274	1	Plug, Countersunk, Hex (1/8") Oil By-Pass - Keys 4,5,6,7,8,9 (Also Key 3, 24 Volt Output - Begin Spec J)	15	102-0319	1	3/8-16 x 1-3/4"
7	120-0571	1	Cup, Oil Pump Intake (Includes Cup, Pipe and Screen) Key 3 (24 Volt Output) - Begin Spec J	16	505-0054	1	Pan, Oil - Keys 4, 5, and 7
	120-0571	1	Key 4 through 9 - Begin Spec F	17	526-0127	3	Plug, Oil Drain (1/4") Keys 5 and 7
	120-0389	1	Key 4 through 9 - Specs A through E	18	850-0050	6	Washer, Flat (13/32" ID x 25/32" OD x 1/8" Thk) - Keys 5 and 7
8			Pump Assembly, Oil	17	850-0048	3	Washer, Lock - Spring (3/8") (NOTE: Keys 5 and 7 only uses 3)
	120-0394	1	Key 3 (24 Volt Output) - Begin Spec J	18	806-0027	6	Washer, Lock Hi-Collar - Oil Pan (3/8") - Keys 5 and 7
	120-0394	1	Keys 4 through 9 - Begin Spec F	19		1	Screw, Cap - Counter Bore (3/8-16 x 3/4") Keys 5 and 7
	120-0200	1	Keys 4 through 9 - Specs A through E				Tube, Crankcase Oil (See Cylinder Block Group)

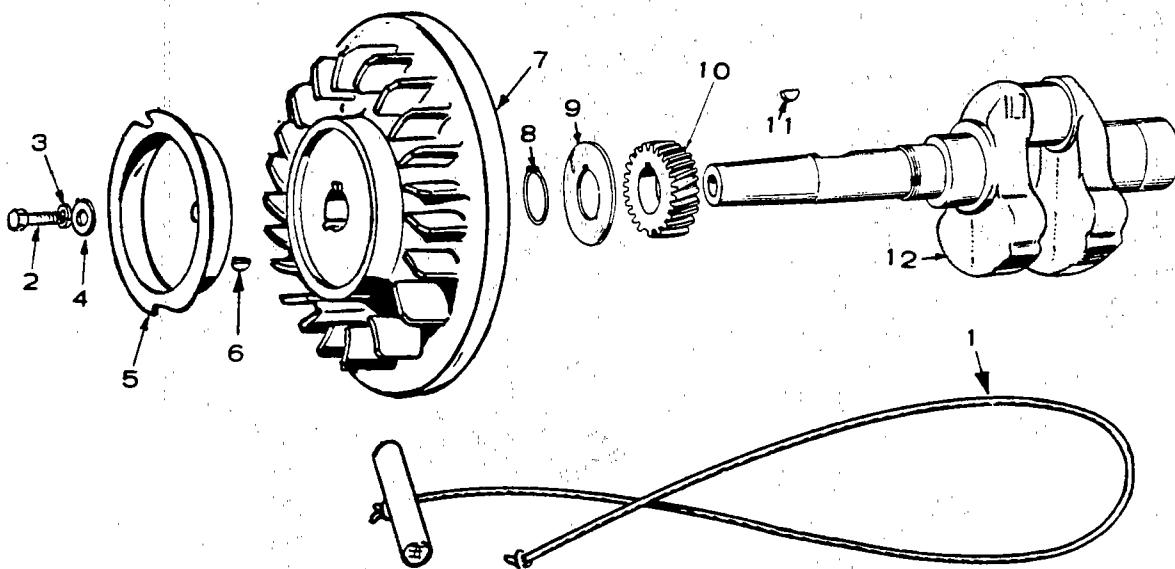
Gearcase



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	103-0222	1	Gearcase Assembly Begin Spec G (Includes Parts Marked *)	18	150-0098	1	Spring, Governor
	103-0141	1	Specs A through F (Includes Parts Marked †)	19	150-0213	1	Stud, Governor Adjusting
2	516-0117	1	*†Pin, Roll (3/16 x 3/16")	20	870-0131	1	Nut, Hex W/ET (#10-32) - Key 1,2,4,5,6,7,8,9,10
3	150-0789	1	* Arm and Shaft, Governor	21	150-0033	1	Nut, Governor Adjusting - Key 3
	150-0575	1	* Specs A through F	22			Link, Governor Arm to Carburetor
4	150-0177	1	*†Stud, Sensitivity Adjustment	150-0786		1	Begin Spec G
5	150-0620	1	*†Yoke (Includes Retainer Ring)	150-0578		1	Specs A through F
6	518-0129	1	*†Ring, Yoke Retainer	23	518-0004	1	Clip, Governor Link
7	509-0008	1	*†Seal, Oil	24	150-0974	1	Joint, Ball
8	510-0008	1	*†Bearing, Shaft - Lower	25	870-0131	1	Nut, Hex W/ET (#10-32)
9	510-0013	1	*†Bearing, Shaft - Upper	26	870-0053	1	Nut, Hex (#10-32)
10	510-0014	1	*†Ball, Thrust	27	150-0198	1	Cover, Governor Spring - Specs A through F
11	150-0156	1	*†Bracket, Governor Spring	28	150-0140	1	*Washer, Governor Yoke - Spec A Only
12	509-0012	1	*†Seal, Oil	29	516-0036	1	*Pin, Cotter - Governor Yoke - Spec A Only (1/16 x 3/8")
13	870-0053	1	*†Nut, Hex (#10-32)				
14	815-0391	1	*†Screw, Cap - Hex Head - Slotted (#10-32 x 1/2")				
15	103-0013	1	Gasket, Gearcase Mounting				
16	850-0045	4	Washer, Lock - Spring (5/16")				
17			Screw, Cap - Hex Head				
	110-0284	2	(Special)				
	800-0034	2	5/16-18 x 2-1/4"				

* - Parts included in 103-0222 Gearcase Assembly.
 † - Parts included in 103-0141 Gearcase Assembly.
 - During Spec A the hole for cotter pin was replaced by a retaining ring groove.

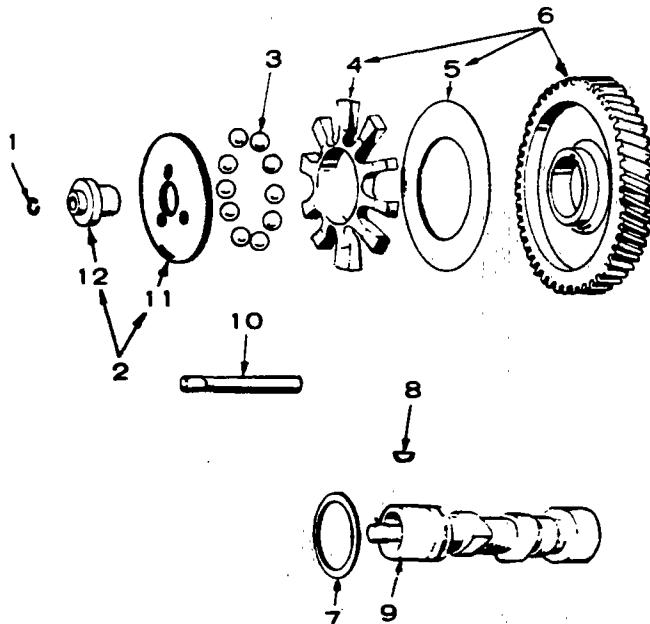
Crankshaft and Flywheel



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	192-0023	1	Rope and Handle	7	160-0459	1	Flywheel (Includes Magnets)
2	104-0237	1	Screw, Cap - Hex Head (Special)				Includes 2-815-0193 Screws (Keys 1,2,3,10)
3	850-0055	1	Washer, Lock - Spring (7/16")				Includes 2-815-0259 Screws
4		1	Washer, Flat (15/32 ID x 1-1/4" OD)				(Keys 4 through 9)
	526-0017	1	1/4" Thk - Keys 1,2,3,6,8, 9,10	8	518-0012	1	Ring, Lock (1-3/16")
	526-0141	1	1/8" Thk - Keys 4,5,7	9	104-0050	1	Washer, Crankshaft Gear
5	192-0261	1	Sheave, Rope	10	104-0048	1	Gear, Crankshaft
6	515-0113	1	*Key, Flywheel (#9)	11	515-0001	1	Key, Crankshaft Gear (1/2 x 1/8")
				12	104-1276	1	Crankshaft (Includes Parts Marked *)

* - Parts included in 104-1276 Crankshaft Kit.

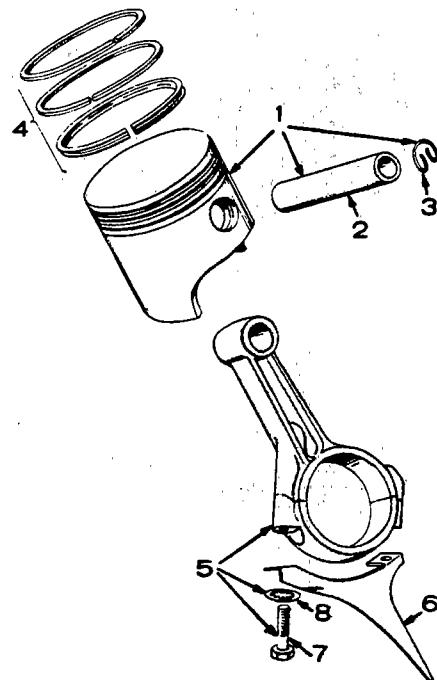
Camshaft



CT-1046

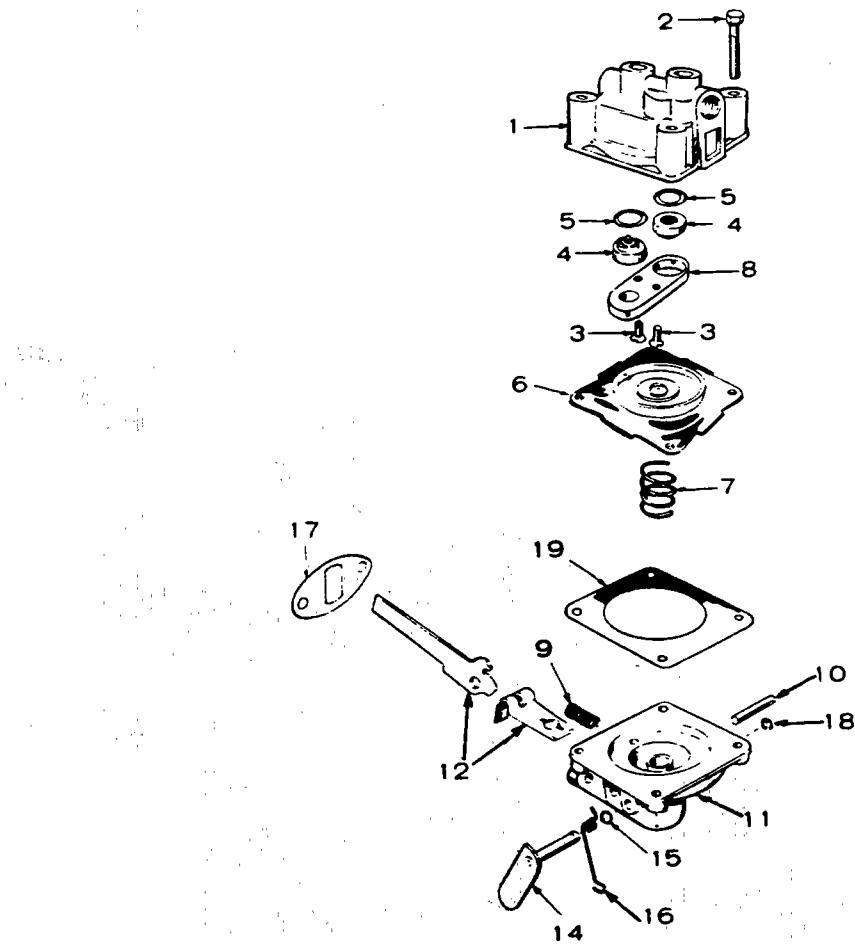
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	150-0078	1	Ring, Lock	6	105-0377	1	Gear Assembly (Includes Spacer and Plate)
2	150-1695	1	Cup, Governor (Retained Hub) (Kit) Early Models (Includes Parts Marked +)	7	105-0004	1	Washer, Thrust
3			Ball, Fly - Governor	8	S15-0001	1	Key, Woodruff - Gear (1/2 x 1/8")
	510-0015	10	Keys 1,2,3,10 (9/16")	9	105-0139	1	Camshaft (Includes Center Pin)
	510-0015	5	Keys 4 through 9 (9/16")	10	150-0075	1	Pin, Center
4			*Spacer, Governor Flyball	11	150-1520	1	+Cup, Governor - Late Models
	150-1257	1	Begin Serial Number 370369 During Spec L	12	150-1519	1	+Hub, Governor Cup - Late Models
	150-1257	1	Spec A through Serial Number 668253 During Spec G				
5			*Plate, Governor Flyball				* - Spacer and plate not sold separately for units manufactured between Serial Number 668253 During Spec G and Serial Number 370369 During Spec - Order Gear Assembly complete.
	150-0077	1	Begin Serial Number 370369 During Spec L				+ - Parts included in 150-1695 Governor Cup Kit.
	150-0077	1	Spec A through Serial Number 668253 During Spec G				

Piston and Rod



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	112-0127	1	Piston and Pin Assembly Standard	5	114-0095	1	Rod, Connecting Standard
	112-0127-05	1	.005" Oversize		114-0095-10	1	.010" Undersize
	112-0127-10	1	.010" Oversize		114-0095-20	1	.020" Undersize
	112-0127-20	1	.020" Oversize		114-0095-30	1	.030" Undersize
	112-0127-30	1	.030" Oversize	6	114-0089	1	Dipper
	112-0127-40	1	.040" Oversize		114-0089	1	Keys 1,2,10
2	112-0063	1	Pin, Piston		114-0089	1	Key 3 (24 Volt Output) - Spec A through H
3	112-0013	2	Clip, Piston Pin		114-0089	1	Key 3 (32 Volt Output)
4			Ring Set		7	114-0023	2
	113-0175	1	Standard		8	854-0014	2
	113-0175-10	1	.010" Oversize				Screw, Rod Cap (Special)
	113-0175-20	1	.020" Oversize				Washer, Lock (I.T. Shakeproof) (1/4")
	113-0175-30	1	.030" Oversize				
	113-0175-40	1	.040" Oversize				

Fuel Pump Parts

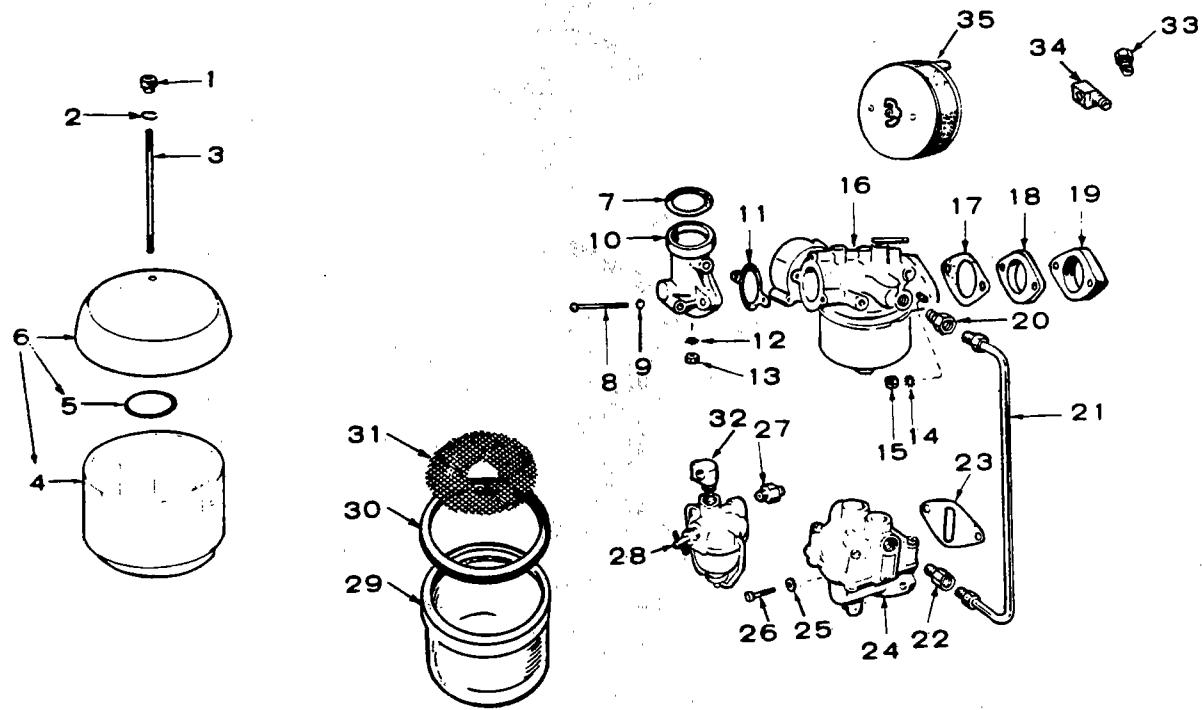


REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	149-0693	1	Pump, Fuel - Complete	9	149-0675	1	*Spring
	149-0526	1	Kit, Repair (Includes Parts Marked *)	10	516-0113	1	Pin, Rocker Arm (.177 x .859)
1	815-0148	1	Body (Not Sold Separately)	11		1	Body (Not Sold Separately)
2	815-0148	4	Screw, Cap - Hex Head (#8-32 x 7/8")	12	149-0710	1	Link and Arm, Rocker
3	815-0147	2	Screw, Phillips Self Tapping (#6-32 x 5/8")	14	149-0553	1	Lever, Primer
4	149-0096	2	*Valve and Cage	15	509-0065	2	Seal, "O" Ring
5	149-0095	2	*Gasket, Valve	16	149-0404	1	Spring, Primer Lever
6	149-0582	1	*Diaphragm Assembly	17	149-0003	1	*Gasket, Pump Mounting
7	149-0672	1	*Spring	18	518-0129	1	Ring, Retainer
8	149-0539	1	Retainer, Valve Cage	19	149-0858	1	†*Gasket, Diaphragm - Lower Side

* - Parts Included in 149-0526 Repair Kit.

† - Used on some models to prevent air lock.

Fuel System (Gasoline)

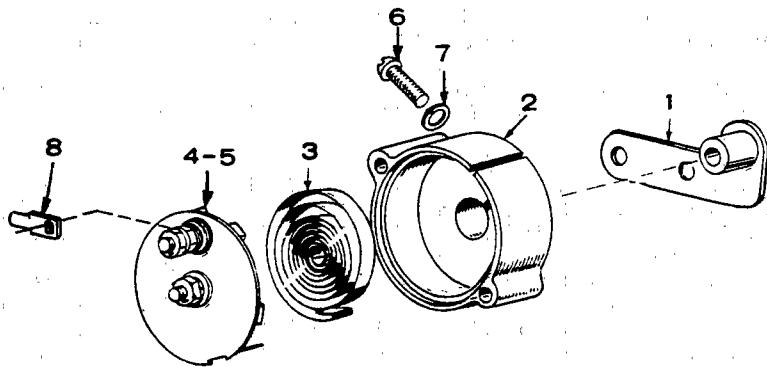


Fuel System (Gasoline)

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	140-0587	1	Knob, Air Cleaner Hold-Down - Begin Serial Number 566319 During Spec E	17	141-0078	1	Gasket, Carburetor Mounting
2	850-0030	1	Washer, Lock - Spring (1/4") - Begin Serial Number 566319 During Spec E	18	145-0469	1	Plate, Carburetor Mounting
3	520-0538	1	Stud, Air Cleaner to Adapter - Begin Serial Number 566319 During Spec E (3/16 x 6-15/16")	19	145-0110	1	Spacer, Carburetor Mounting
4	140-0469	1	Cup, Air Cleaner - Begin Serial Number 566319 During Spec E (Includes Seal)	20	502-0003	1	Connector, Inverted Male - Carburetor Inlet
5	509-0135	1	Seal, "O" Ring - Begin Serial Number 566319 During Spec E	21	149-1110	1	Line, Fuel Begin Spec K
6	140-0441	1	Air Cleaner - Complete Begin Serial Number 566319 During Spec E	149-0561		1	Specs A through J
7	140-0443	1	Gasket, Air Cleaner Mounting - Begin Serial Number 566319 During Spec E	22	502-0003	1	Connector, Inverted Male Pump Outlet
8	812-0086	2	Screw, Machine - Round Head Begin Spec K (#8-32 x 1-1/4")	23	149-0003	1	Gasket, Pump Mounting
	812-0082	2	Begin Serial Number 566319 During Spec E through Spec J (8-32 x 3/4")	24	149-1784	1	Pump, Fuel - Includes Mounting
9	850-0025	2	Washer, Lock - Spring (#8) - Begin Serial Number 566319 During Spec E	25	526-0063	2	Gasket (See 149-0693 Group for Components)
10	140-0446	1	Adapter, Air Cleaner Keys 1,2,4 through 10	26	806-0008	2	Washer, Flat - Copper
	140-1269	1	Key 3	27	502-0082	1	(17/64" ID x 7/16" OD x 1/32" Thk)
11	145-0111	1	Gasket, Adapter to Carburetor	28	149-0079	1	Screw, Machine - Counterbore Head (1/4-20 x 5/8")
12	854-0010	1	Washer, Lock - IT (#10) - Begin Serial Number 566319 During Spec E	29	149-0150	1	Nipple, Hex (1/8-1/8")
13	870-0053	2	Nut, Hex (#10-32) - Begin Serial Number 566319 During Spec E	30	149-0149	1	Filter, Fuel (Includes Parts Marked *)
14	853-0013	2	Washer, Lock - ET (1/4")	31	149-0202	1	*Bowl, Fuel Filter
15	115-0025	2	Nut, Hex (Special)	32	502-0440	1	*Gasket, Fuel Filter
16			Carburetor (Gasoline) (Includes Mounting Gasket) (See Separate Group for Components)	33	502-0003	1	*Screen, Fuel Filter
	146-0296	1	Keys 1,3,4,5,6,7,10 (Manual Choke) - For Components See 146-0093	34	502-0002	1	Elbow, 45° Fuel Filter Inlet - Begin Spec N (1/4")
	146-0297	1	Keys 2,8,9 (Electric Choke) For Components See 146-0093	34	502-0020	1	Connector, Inverted Male Fuel Filter Inlet - Specs G through M
				35	140-0369	1	Elbow, Inverted Male - Fuel Filter Inlet - Specs A through F (1/4")
					140-0408	1	Elbow, Street - 90° - Keys 3,4,8,9
							Air Cleaner - Spec A through Serial Number 566318 During Spec E (Includes Gasket and Element)
							Element

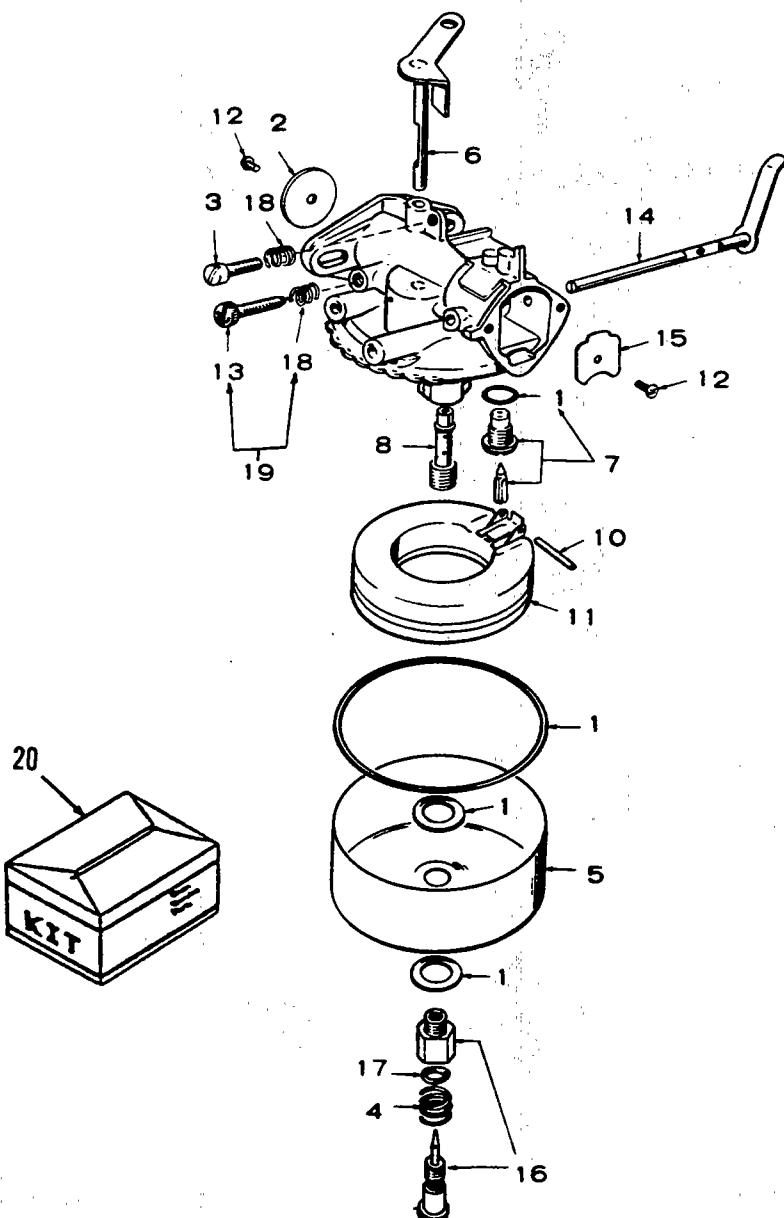
* - Parts Included in 149-0079 Filter.

Electric Choke - Keys 2,8,9



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1 153-0420		1	Adapter, Choke to Carburetor Begin Spec K	5 153-0115		1	Element & Cover, Choke (Includes 32 Volt Element) -
153-0196		1	Spec A through J				Key 8,9 Spec A through G
2 153-0058		1	Bracket, Housing	6 815-0110		1	Screw (#10-32 x 7/8") -
3 153-0017		1	Element, Bimetal				Choke Mounting
4 153-0114		1	Element & Cover, Choke (Includes 24 Volt Element) - Key 2 (Also Key 8, 9 Begin Spec H)	7 850-0030		1	Washer (#10), Lock
				8 332-0527		1	Terminal, Wire

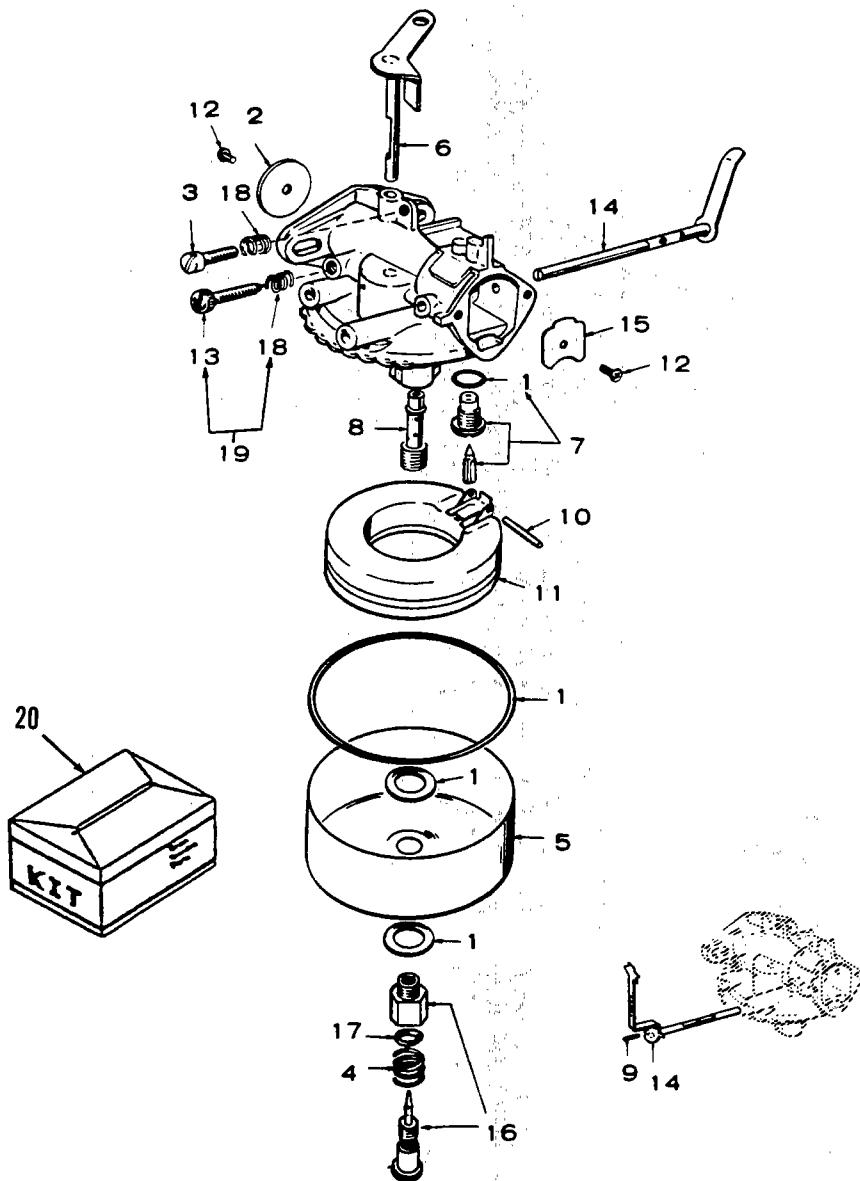
Carburetor Parts (Gasoline)
Specs A through J



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
			Carburetor, Complete	14	146-0107	1	Shaft Assembly, Choke - Keys 2,8
146-0093	1	1	Keys 2,8 (Electric Choke)	15	146-0104	1	Valve, Choke - Keys 2,8
146-0123	1	1	Kit, Repair (Includes Parts Marked *)	16	146-0102	1	*Needle Assembly, Power
1 146-0124	1	1	*Kit, Gasket	17	146-0120	1	Seal, "O" Ring - High Speed Needle
2 146-0119	1	1	Valve, Throttle	18	146-0186	1	+Spring, Stop Screw and Idle Screw
3 146-0122	1	1	+Screw, Throttle Stop	19	146-0209	1	Needle Assembly, Idle Adjust (Package) (Includes Parts Marked §)
4 146-0117	1	1	Spring, High Speed Needle	20	146-0261	1	Kit, Throttle Adjusting Screw (Includes Parts Marked +)
5 146-0118	1	1	Bowl, Fuel				
6 146-0112	1	1	Shaft Assembly, Throttle				
7 146-0145	1	1	*Float Valve, Seat and Gasket Assembly				
8 146-0113	1	1	Nozzle				
10 146-0111	1	1	*Shaft, Float				
11 146-0110	1	1	Float Assembly				
12 146-0109	2	2	Screw and Washer				
13 146-0116	1	1	§*Needle, Idle				

* - Parts Included in 146-0123 Repair Kit.
 § - Parts Included in 146-0209 Needle Assembly (Package).
 + - Parts Included in 146-0261 Kit.

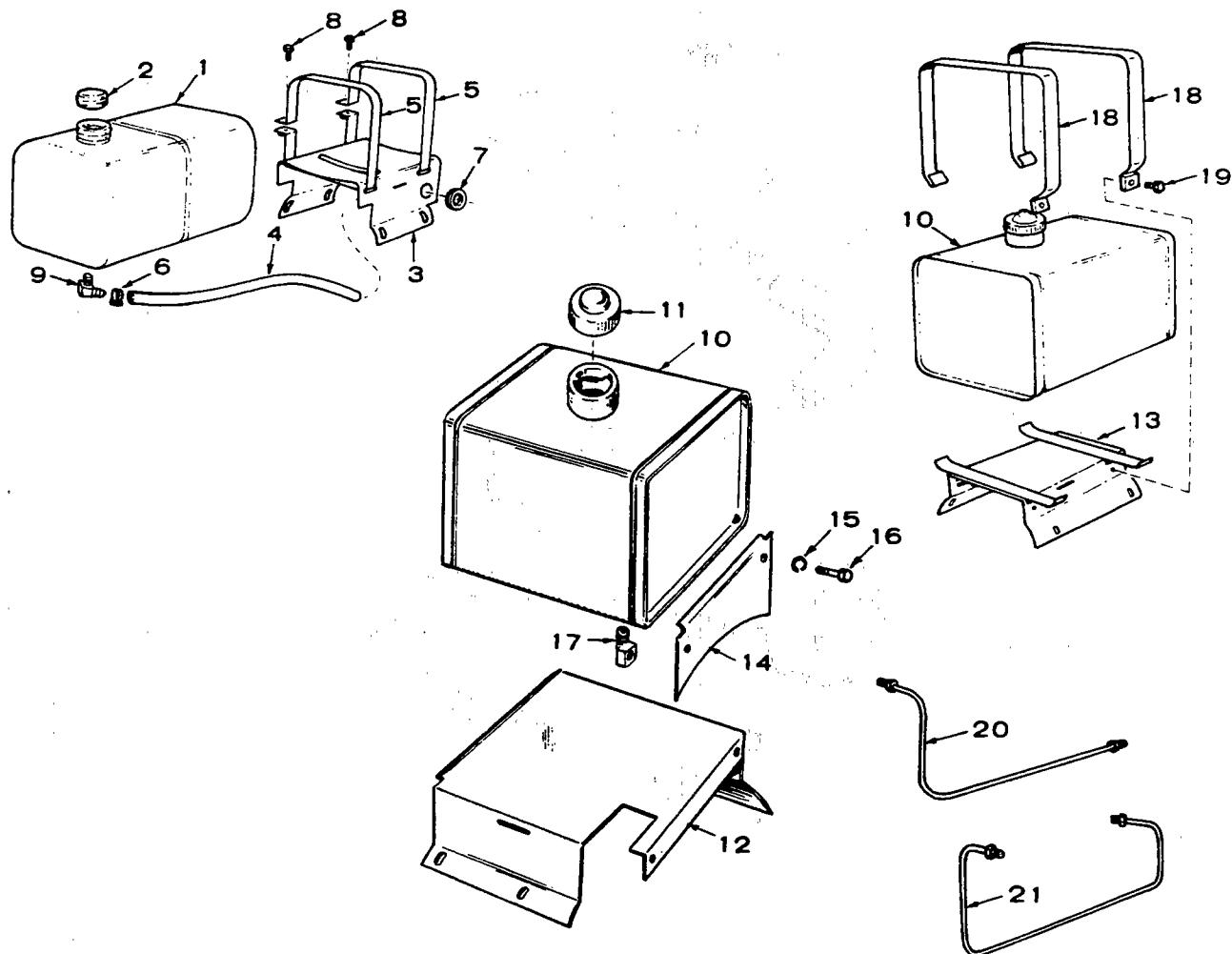
Carburetor Parts (Gasoline)
Begin Spec K



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
146-0092	1	1	Carburetor, Complete Keys 1,3,4,5,6,7,10 (Manual Choke)	14	146-0108	1	Shaft Assembly, Choke Keys 1,3,4,5,6,7,10
146-0093	1	1	Keys 2,8,9 (Electric Choke)	146-0107	1	Keys 2,8,9	Valve, Choke
146-0123	1	1	Kit, Repair (Includes Parts Marked *)	15	146-0105	1	Keys 1,3,4,5,6,7,10
1	146-0124	1	*Kit, Gasket	146-0104	1	Keys 2,8,9	Keys 1,3,4,5,6,7,10
2	146-0119	1	Valve, Throttle	16	146-0102	1	*Needle Assembly, Power
3	146-0122	1	+Screw, Throttle Stop	17	146-0120	1	Seal, "O" Ring - High Speed
4	146-0117	1	Spring, High Speed Needle	18	146-0186	1	Needle
5	146-0118	1	Bowl, Fuel	19	146-0209	1	+Spring, Stop Screw and Idle
6	146-0112	1	Shaft Assembly, Throttle	20	146-0261	1	Screw
7	146-0145	1	*Float Valve, Seat and Gasket Assembly				Needle Assembly, Idle Adjust (Package) (Includes Parts Marked \$)
8	146-0113	1	Nozzle				Kit, Throttle Adjusting Screw (Includes Parts Marked +)
9	146-0114	1	Spring, Choke Stop - Keys 1, 3,4,5,6,7,10				
10	146-0111	1	*Shaft, Float				
11	146-0110	1	Float Assembly				
12	146-0109	2	Screw and Washer				
13	146-0116	1	\$*Needle, Idle				

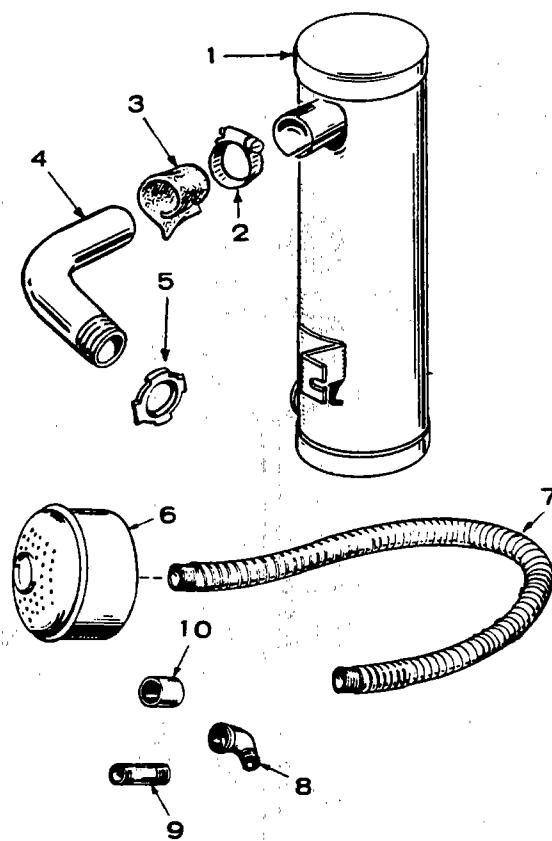
* - Parts Included in 146-0123 Repair Kit.
\$ - Parts Included in 146-0209 Needle Assembly
(Package).
+ - Parts Included in 146-0261 Kit.

Fuel Tank - Keys 1,4,5,6,7,10



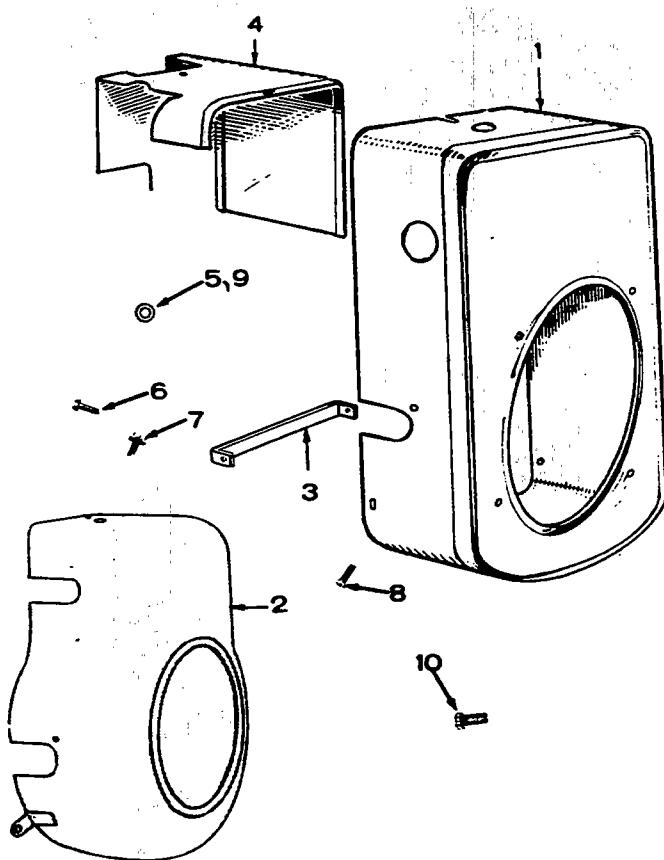
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	159-1027	1	Tank, Fuel - Begin Spec N (1.5 gal.)	12	159-0717	1	Bracket, Tank Mounting - Specs G through M
2	159-1028	1	Cap, Fuel Tank - Begin Spec N	13	159-0485	1	Bracket, Tank Mounting - Specs A through F
3	159-1034	1	Bracket, Fuel Tank Mounting - Begin Spec N	14	159-0718	1	Bracket, Tank Hold-down - Specs G through M
4	503-0754	1	Hose, Tank to Filter - Begin Spec N	15	850-0040	2	Washer, Lock - Spring (1/4") Specs G through M
5	159-1035	2	Band, Fuel Tank - Begin Spec N	16	800-0005	2	Screw, Cap - Hex Head (1/4-20 x 3/4") - Specs G through M
6	503-0685	2	Clamp, Hose - Begin Spec N (7/32 to 5/8")	17	502-0002	1	Elbow, Inverted Male (1/4")
7	508-0001	1	Grommet, Rubber - Begin Spec N (3/4 ID x 1-9/32" OD)	18	159-0487	2	Band, Tank Mounting - Specs A through F
8	821-0013	1	Screw, Cap - Hex Head Locking (1/4-20 x 1") - Begin Spec N	19	815-0208	2	Screw, Cap - Hex Head (1/4-20 x 1") - Specs A through F
9	502-0313	1	Elbow, Adapter - Begin Spec N (1/4")	20	159-0728	1	Line, Fuel - Specs G through M
10	159-0234	1	Tank, Fuel (1.8 gal) - Specs A through M	21	159-0505	1	Line, Fuel - Specs A through F
11	159-0007	1	Cap, Fuel Tank - Specs A through M				

Exhaust System



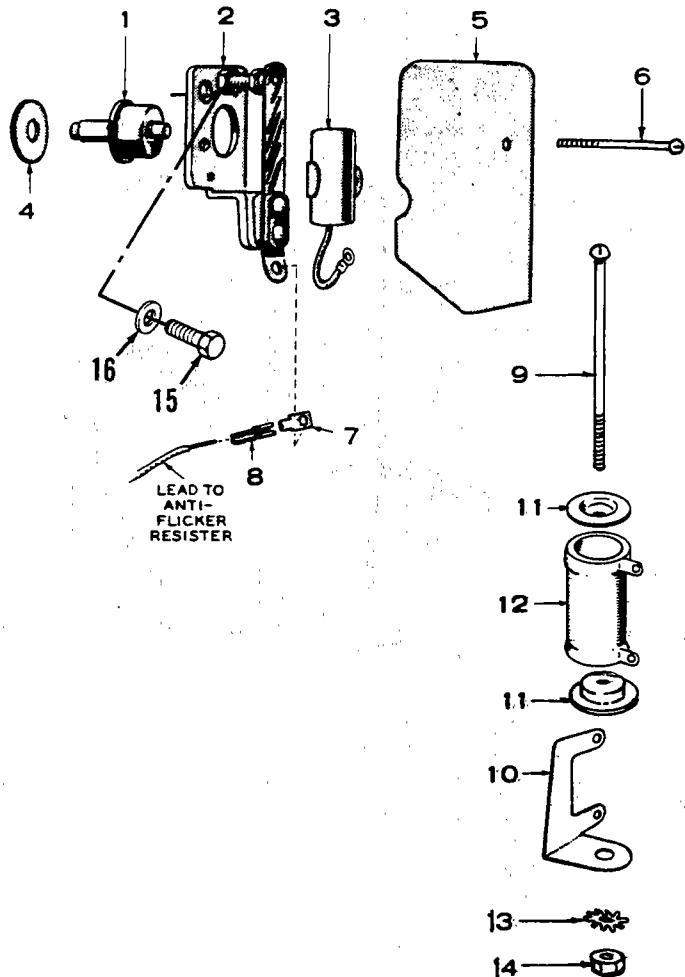
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	155-0692	1	Muffler, Exhaust - Begin Spec G	7			Tube, Exhaust (Flexible) - Keys 2,3,8,9
2	503-0189	1	Clamp, Muffler - Begin Spec G	155-0727		1	Begin Spec G (1" x 36")
3	895-0096	1	Asbestos Strip - Begin Spec G	155-0490		1	Specs A through F (3/4" x 36")
4	155-0691	1	Tube, Exhaust - Begin Spec G	8	505-0051	1	Elbow, Street (3/4" x 90°) - Specs A through F
5	331-0038	1	Nut, Lock - Chase (Special)	9	505-0332	1	Nipple, Pipe (3/4" x 3") - Specs A through F
6			Muffler, Exhaust - Specs A through F	10	505-0029	1	Coupling, Pipe (3/4") - Keys 2,3,8,9 - Specs A through F
	155-0488	1	Keys 1,2,3,10				
	155-0487	1	Keys 4,5,6,7,8,9				

Exploded View Drawing - Air Housing



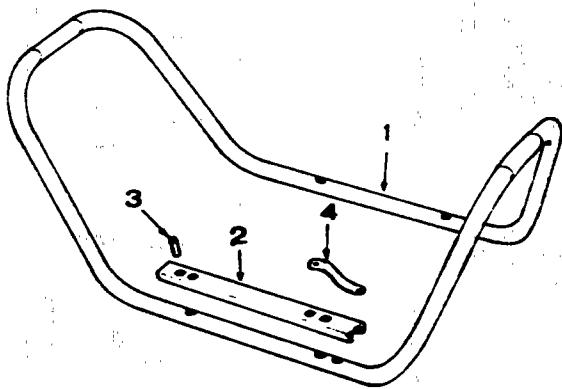
REF. NO.	PART NO.	QTY USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY USED	PART DESCRIPTION
1	134-1016	1	Housing, Blower	5	856-0003	2	Washer, Lock - Blower Housing - IET (#10)
	134-1698	1	Begin Spec G	6	815-0181	2	Screw, Hex Head - Blower
		1	Begin Spec P	7	815-0290	1	Housing - IET (#10-32 x 1/2")
2	134-0519	1	Housing, Blower - Specs A through F	8	815-0333	2	Screw, Hex Washer Head - Blower Housing (1/4-20 x 5/8")
3			Bracket, Mounting - Blower Housing	9	856-0003	2	Screw, Round Head Machine - Blower Bracket (#10-32 x 1/2")
	134-1014	1	Begin Spec G	10	815-0261	2	Washer, Lock - Blower Bracket - IET (#10)
	134-1697	1	Begin Spec P				Screw, Hex Head - Cylinder
4			Shroud, Cylinder Air				Air Shroud (1/4-20 x 1/2")
	134-1534	1	Begin Spec G				
	134-0518	1	Specs A through F				

Anti-Flicker - Keys 1,2



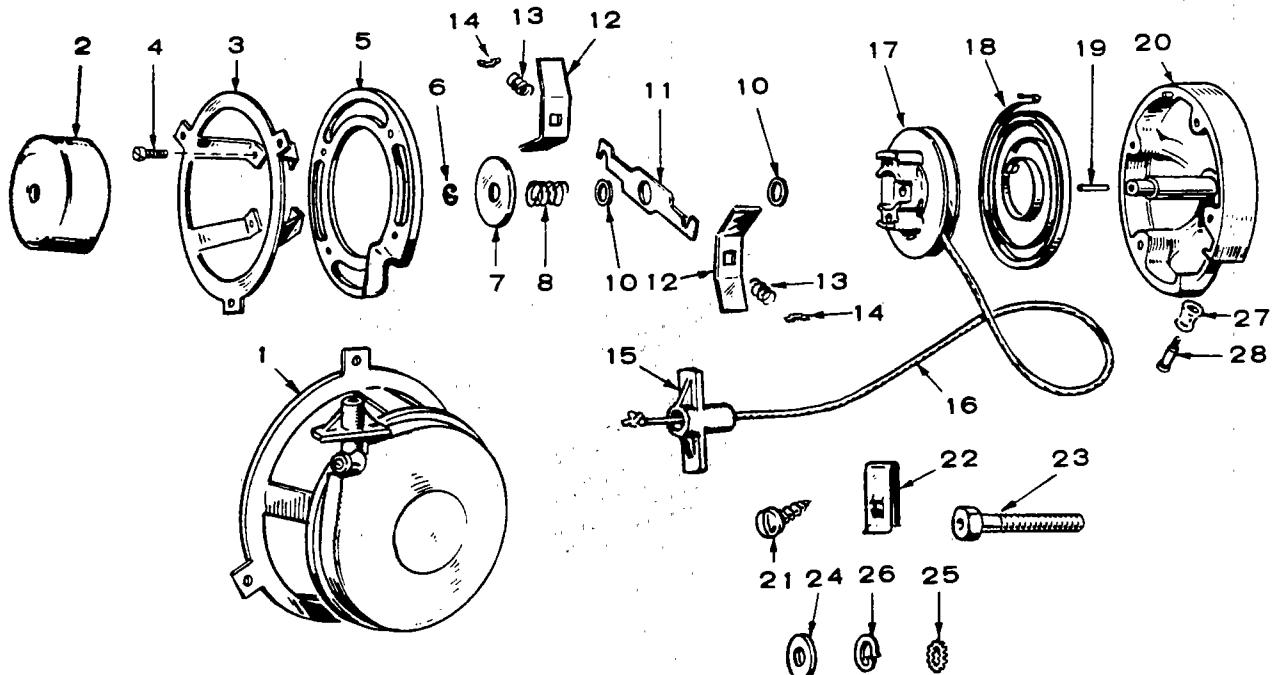
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	160-0447	1	Plunger Assembly (Includes Plunger, Guide and Diaphragm)	304-0047		1	For 50 Hertz Sets
2	160-0478	1	Point Set	304-0047		1	Key 1 (120 Volt Output) - Begin Spec K
3	312-0019	1	Condenser (0.5 Mfd.)	304-0011		1	Key 1 (240 Volt Output) - Begin Spec K
4	160-0461	1	Gasket, Plunger Guide	304-0120		1	Key 1 - Specs G through J
5	166-0254	1	Cover, Contact Points	304-0315		1	Key 1 - Specs A through F
6	815-0187	1	Screw, Machine - Round Head (#10-32 x 1-1/4")	304-0120		1	Key 2 - Begin Spec G
7	332-0527	1	Terminal, Solderless (Male)	304-0315		1	Key 2 - Specs A through F
8	332-0529	1	Terminal, Solderless (Female)	13	853-0008	1	Washer, Lock - ET (#10)
9	813-0112	1	Screw, Machine - Round Head (#10-32 x 2-1/2")	14	870-0053	1	Nut, Hex (#10-32)
10	304-0304	1	Bracket, Resistor Mounting	15	800-0003	1	Screw, Cap - Hex Head (1/4-20 x 5/8")
11	304-0014	2	Washer, Resistor Mounting	16	526-0063	1	Washer, Flat (1/4")
12			Resistor, Fixed (Mounted in Generator)				
			For 60 Hertz Sets				
	304-0047	1	Key 1 (120 Volt Output) - Begin Spec K				
	304-0011	1	Key 1 (240 Volt Output) - Begin Spec K				
	304-0168	1	Key 1 - Specs G through J				
	304-0321	1	Key 1 - Specs A through F				
	304-0168	1	Key 2 - Begin Spec G				
	304-0321	1	Key 2 - Specs A through F				

Carrying Frame - Keys 5,7



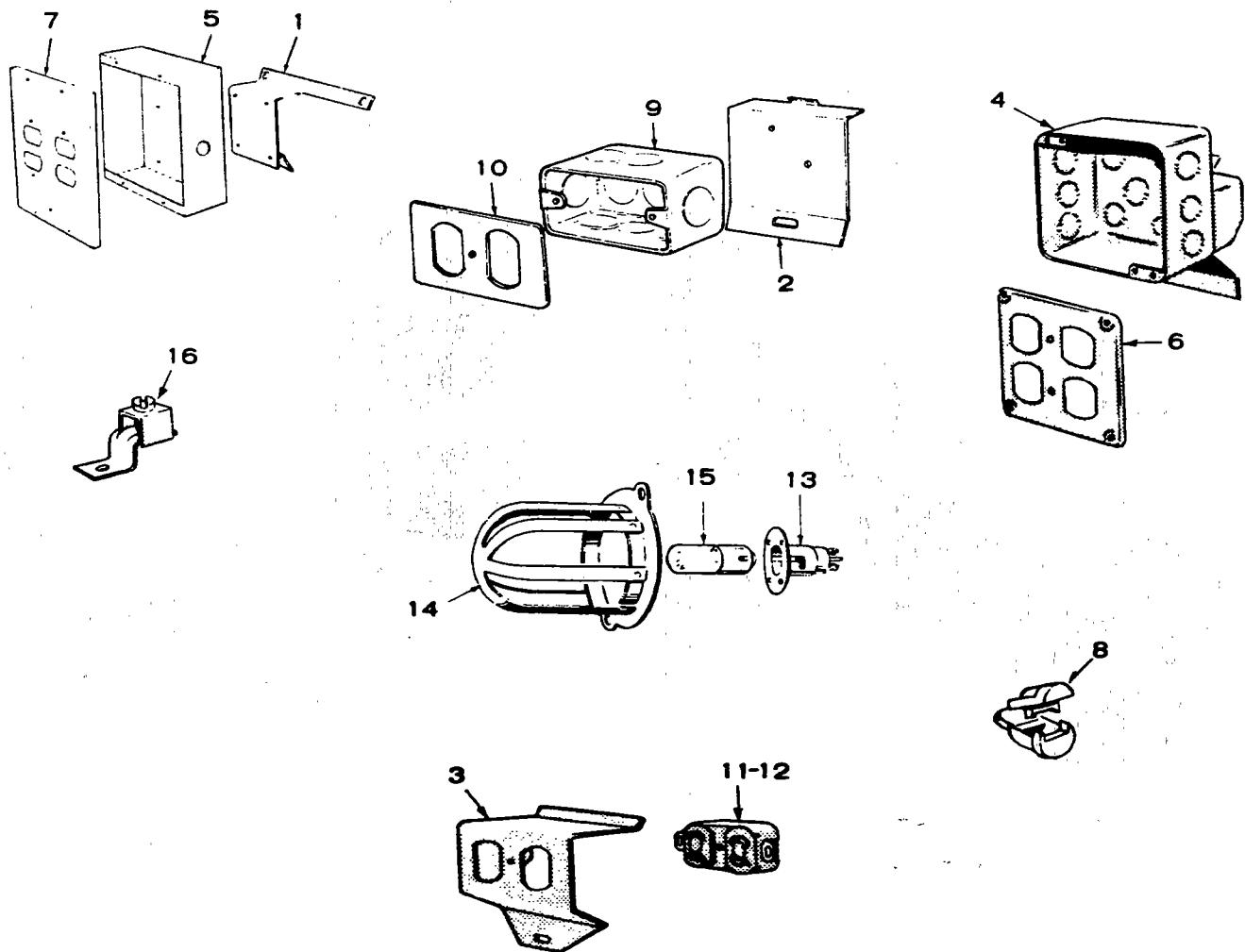
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
403-0744	1	1	Frame Package, Carrying - One Piece Frame (includes Mounting Cushions, Spacers, Channels, Supports and Hardware) - Replaces two piece frames used Specs A through E (29" Long)	1	403-0743	1	Frame Only, Carrying - one piece - Begin Spec F (29" Long)
				2	402-0170	2	Channel, Engine Mounting - Begin Spec F
				3	402-0171	4	Support, Engine Mounting - Begin Spec F
				4	337-0067	1	Strap, Ground

Readi-Pull Starter



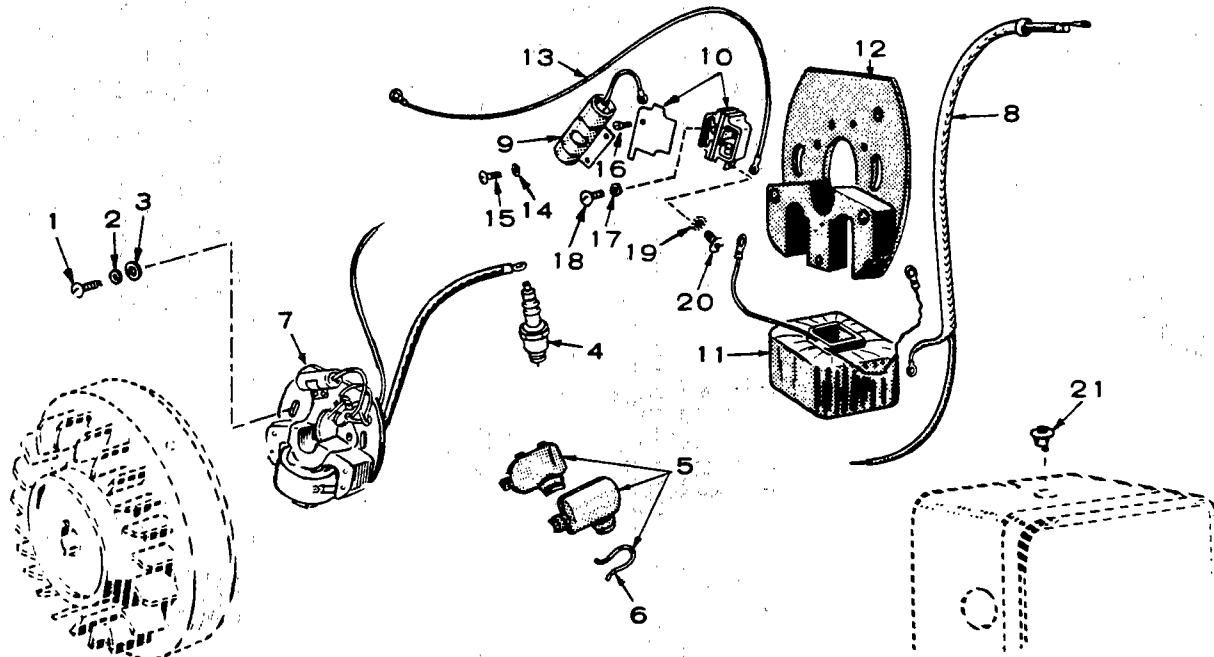
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Starter Kit (Complete) - Includes Cup and Mounting Ring	14	192-0281	2	Plate, Spring Retainer
192-0343	1	1	Begin Spec G (Obsoleted After April 1989)	15	192-0282	1	Handle (Includes Washer)
192-0270	1	1	Spec A through F	16	192-0283	1	Cord Only, Rewind Starter
192-0447	1	1	Begin Spec P	17	192-0284	1	Rotor (Rope Sheave)
2			Cup, Starter Engaging	18	192-0285	1	Spring, Rewind
192-0273	1	1	Spec A through N	19	192-0287	1	Pin, Centering
192-0364	1	1	Beginning Spec P	20	192-0286	1	Cover, Starter
3			Ring, Adapter - Starter to Engine Housing	21	815-0179	4	Screw, Round Head (#10-32 x 3/8") Begin Spec G
192-0341	1	1	Begin Spec G	21	809-0044	3	Screw, Sheet Metal (#10-32 x 1/2") Specs A through F
192-0269	1	1	Spec A through F	22	870-0119	3	Nut, Tinnerman (U-Type) - Spec A through F
4	815-0171	4	Screw, Tap - Pan Head (#10-24 x 5/8")	23	104-0237	1	Screw, Cup Mounting (With Pilot) - Special
5	192-0274	1	Flange, Middle	24	526-0141	1	Washer, Flat - Cup Mounting (15/32 ID x 1-1/4 OD x 1/8" Thk)
6	518-0205	1	Ring, Retainer	25	856-0003	4	Washer - Starter Ring to Engine Housing - Quantity of 3 used - Spec A through F (#10)
7	526-0142	1	Washer, Brake Retainer (1/4 ID x 1-1/2 OD x 1/16" Thk)	26	850-0055	1	Washer, Lock - Cup Mounting
8	192-0275	1	Spring, Brake	27	192-0339	1	Roller, Rope
10	192-0279	2	Washer, Friction	28	192-0340	1	Screw, Roller
11	192-0277	1	Lever, Brake				
12	192-0278	2	Plate, Friction Shoe				
13	192-0280	2	Spring, Friction Shoe				

Receptacles - Keys 1,4,5,6,7,10



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	301-1870	1	Bracket, Receptacle Box Keys 4,5,6,7,10 - Begin Spec G	11	323-0383	1	Receptacle, Duplex (120 Volt) - Parallel Blades
	301-1372	1	Keys 4,5,6,7 - Specs C through F		323-0383	2	Key 1
2	301-1983	1	Bracket, Receptacle Box - Key 1 - Begin Spec G		323-0383	1	Key 4
3	301-1146	1	Bracket, Receptacle Mounting Key 1 - Specs A through F		323-0383	2	Begin Spec C
	301-1146	1	Keys 4,6,7 - Specs A and B		323-0383	1	Specs A and B
4	330-0044	1	Box and Bracket, Receptacle - Keys 5 - Specs A and B	12	323-0213	1	Key 5,10
5			Box, Receptacle - Keys 4,5, 6,7,10		323-0213	2	Keys 6,7
	330-0028	1	Begin Spec G		323-0213	1	Receptacle, Duplex (240 Volt) - Tandem Blades
	301-1373	1	Specs C through F		323-0213	2	Key 1
6			Cover, Receptacle Box	13	322-0021	1	Key 4
	330-0042	1	Keys 4,5,6,7,10 - Begin Spec G		323-0213	2	Begin Spec C
	330-0042	1	Key 5 - Specs A and B		323-0213	1	Specs A and B
7	301-1392	1	Cover, Receptacle Box - Keys 4,5,6,7 - Specs C through F	14	322-0022	1	Key 5
					323-0213	2	Keys 6,7
8	508-0098	1	Bushing, Insulator - Keys 1,4,5,6,7,10	15			Receptacle, Pilot Light - Keys 4,5,6,7 - Specs C through F
9	330-0005	1	Box, Receptacle - Key 1 - Begin Spec G		322-0059	1	Guard, Pilot Light - Keys 4,5,6,7 - Specs C through F
10	330-0016	1	Cover, Receptacle Box - Key 1 - Begin Spec G		322-0011	1	120 Volt
					322-0011	1	240 Volt
					332-0142	1	Keys 6,7 - Specs C through F
							Terminal, Solderless - Ground

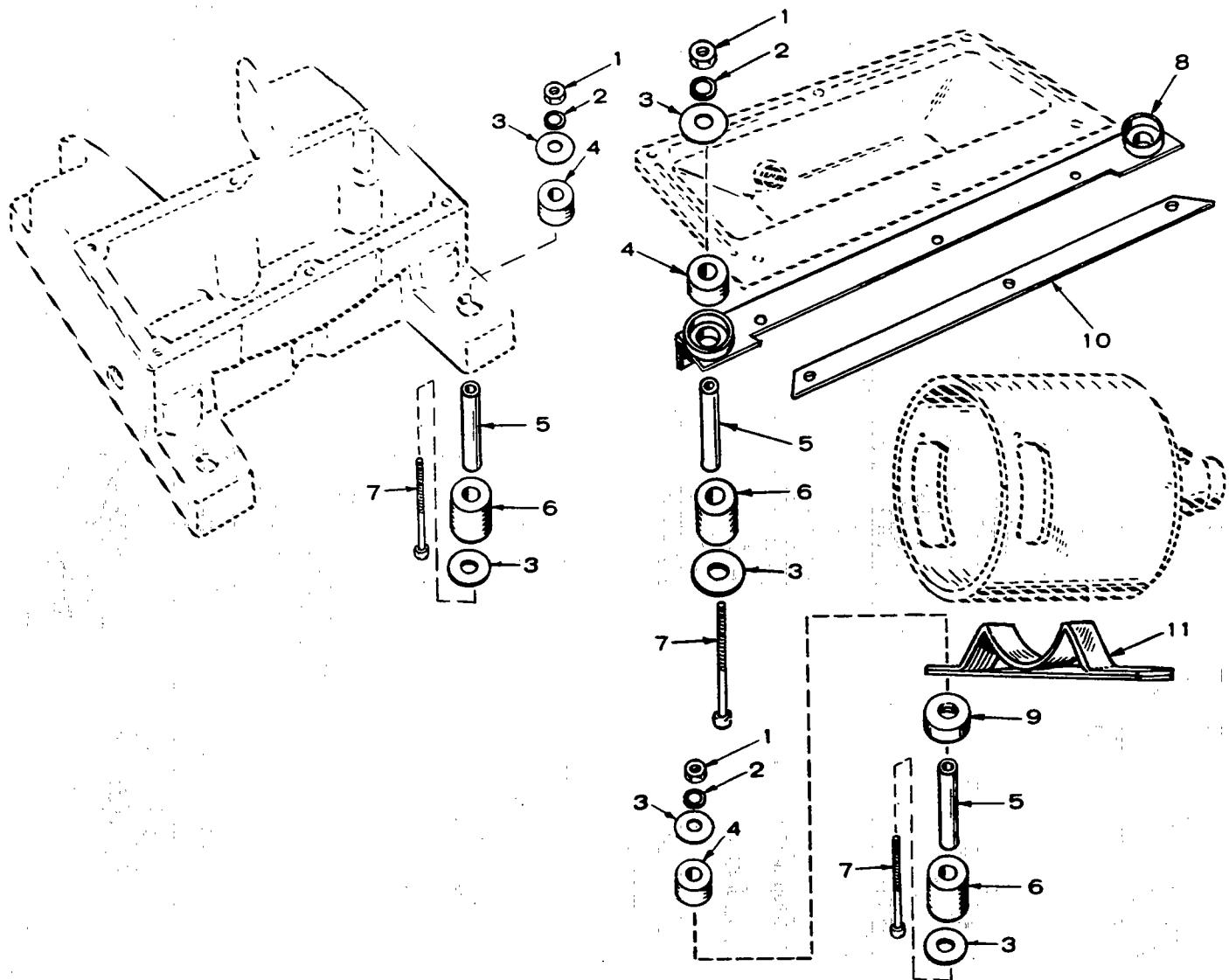
Ignition System (Magneto)



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	821-0018	2	Screw, Self-Locking - Hex Washer Head (1/4-20 x 5/8")	13	336-0345	1	*Lead, Stop
2	526-0214	2	Washer, Flat (17/64" ID x 1/2" OD x 1/16" Thk)	14	854-0007	1	*Washer, Lock - IT (#8)
3	850-0040	2	Washer, Lock - Spring (1/4")	15	812-0075	1	*Screw, Machine - Round Head (#8-32 x 1/4")
4	167-0241	1	Plug, Spark Non-Resistor Type	16	815-0122	1	*†Screw, Cap - Hex Head (#6-32 x 1/2")
	167-0237	1	Resistor Type	17	850-0025	1	*†Washer, Lock - Spring (#8)
5	167-0067	1	Shield and Clamp, Spark Plug	18	812-0077	1	*†Screw, Machine - Round Head (#8-32 x 3/8")
6	167-0064	1	Clamp, Spark Plug Shield	19	853-0003	1	*†Washer, Lock - ET (#6)
7	160-0487	1	Backplate Assembly, Magneto (Includes Parts Marked *)	20	812-0059	1	*†Screw, Machine - Round Head (#6-32 x 1/4")
8	167-1272	1	*Cable, Spark Plug	21			Switch, Stop
9	312-0033	1	*Condenser		313-0018	1	Keys 1,4,5,6,7,10
10	160-0540	1	*Point Set (Includes Parts Marked †)		313-0034	1	Key 3
11	160-0155	1	*Coil				
12	160-0454	1	*Backplate and Poleshoe				

* - Parts Included in 160-0487 Backplate Assembly.
 † - Parts Included in 160-0540 Point Set.

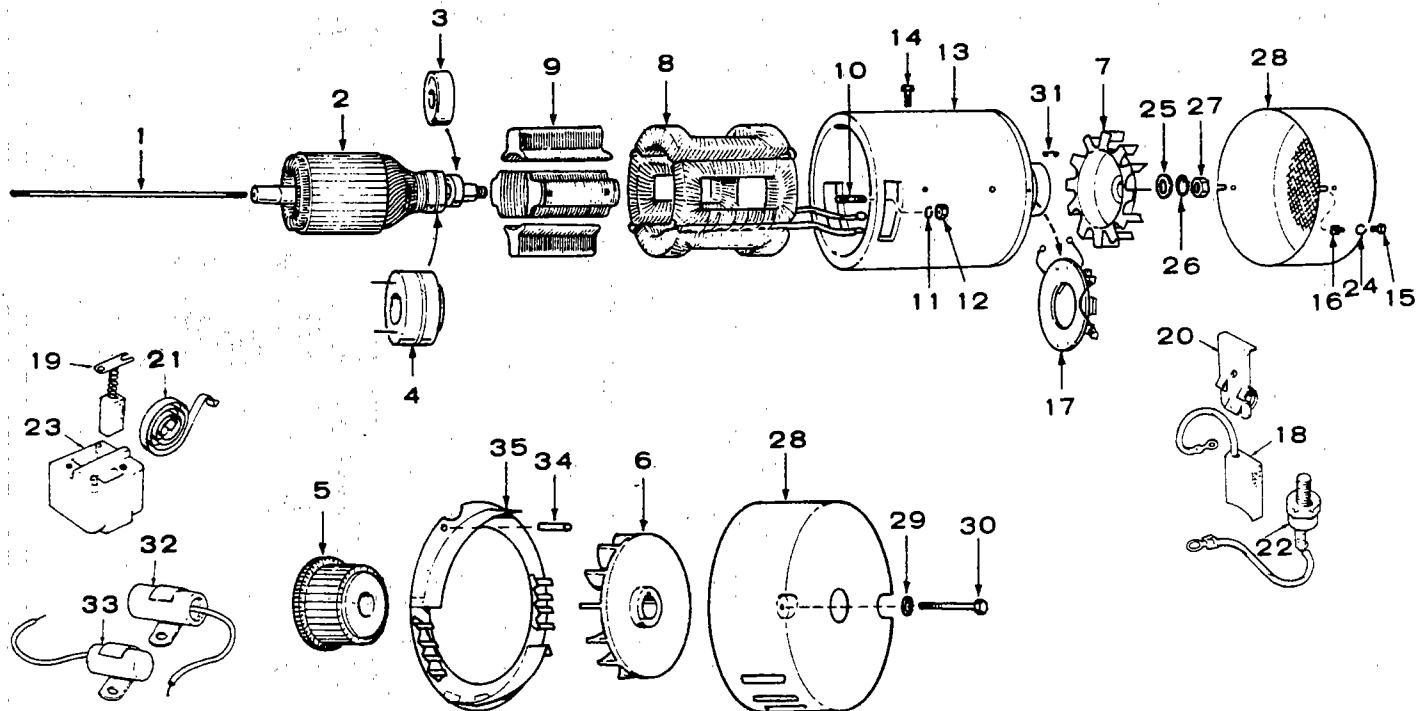
Mounting Hardware



REF. NO.	PART NO.	QTY USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY USED	PART DESCRIPTION
	402-0229	4	Cushion Package - Keys 1,2, 3,4,6,8,9,10 (Includes Parts Marked *)	6	402-0045	4	Cushion, Lower
1	862-0015	4	*Nut, Hex (5/16-18)	402-0144	402-0144	2	* Keys 1,2,3,4,6,8,9,10 Keys 5 and 7 (Engine End)
2	850-0046	4	*Washer, Lock - Spring (5/16")	402-0045	2	Keys 5 and 7 (Generator End)	
3	526-0041	8	*Washer, Flat (21/64" ID x 1" OD x 1/16" Thk)	7	816-0114	4	Bolt, Carriage
4	402-0076	4	Cushion, Upper * Keys 1,2,3,4,6,8,9,10 - Begin Spec F	816-0111	403-0381	2	* Keys 1,2,3,4,6,8,9,10 (5/16-18 x 4-1/2")
	402-0044	4	Keys 1,2,3,4,6 - Specs A through E	816-0110	1	Keys 5 and 7 - Engine End (5/16-18 x 3-3/4")	
	402-0076	4	Keys 5 and 7	9	402-0140	2	Keys 5 and 7 - Generator End (5/16-18 x 3-1/2")
5	402-0141	4	Bushing, Cushion Spacing * Keys 1,2,3,4,6,8,9,10 - Begin Spec F	10	102-0689	1	Bracket, Engine Mounting - Keys 5 and 7
	402-0048	4	Keys 1,2,3,4,6,8,9,10 - Specs A through E	11	232-1282	1	Cup, Centering - Keys 5 and 7
	402-0142	2	Keys 5 and 7 (Engine End)				Stiffener, Oil Pan - Keys 5 and 7
	402-0141	2	Keys 5 and 7 (Generator End)				Bracket, Generator Mounting - Keys 5 and 7

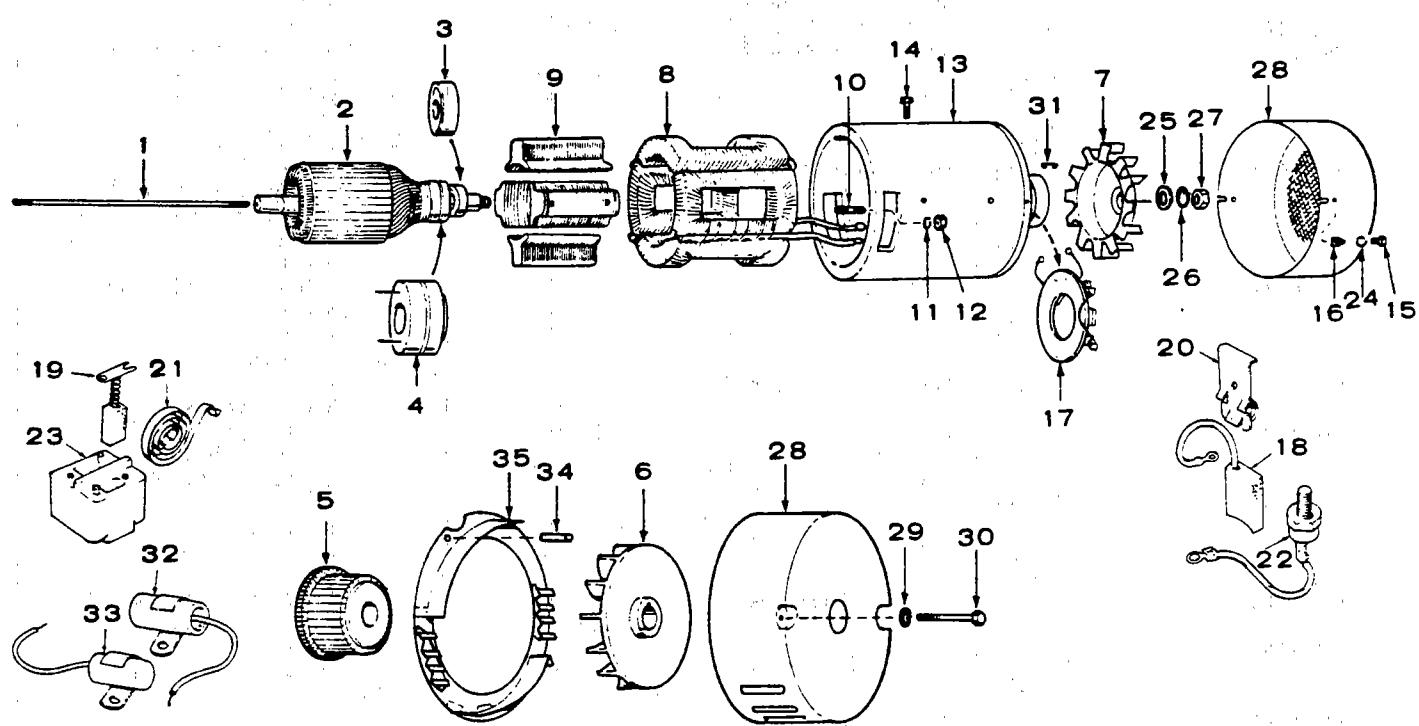
* - Parts included in 402-0229 Cushion Package.

Generator (Four Pole Type) - Keys 1,2,3,10



Generator (Four Pole Type) - Keys 1,2,3,10

Generator (Four Pole Type) - Keys 1,2,3,10



Generator (Four Pole Type) - Keys 1,2,3,10

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
16	232-1557	2	Clip, End Cover - Hold-down Keys 1,2 - Begin Spec G	25	526-0029	1	Washer, Flat (25/64" ID x 7/8" OD x 1/16" Thk)
	232-1557	2	Key 3 (24 Volt) - Begin Spec H	26	850-0050	1	Washer, Lock - Spring (3/8")
	232-1557	2	Key 3 (32 Volt) - Begin Spec G	27	104-0091	1	Nut, Hex (Special)
	232-1557	2	Key 10	28			Cover, Generator End Keys 1,2
17			Rig Assembly, Brush (Includes Brushes, Springs, Holders and Rectifiers)	234-0127		1	Begin Spec G
			Keys 1,2	234-0125		1	Specs E and F
	212-0292	1	120 Volt - Begin Spec K	232-1214		1	Specs A through D
	212-0305	1	240 Volt - Begin Spec K	234-0127		1	Key 3
	212-0209	1	Specs A through J	234-0125		1	24 Volt-Begin Spec H
			Key 3	232-1214		1	24 Volt-Specs A through G
	212-0251	1	24 Volt-Begin Spec H	234-0127		1	32 Volt-Begin Spec G
	212-0378	1	24 Volt-Specs A through G	29	850-0040	2	32 Volt-Specs E and F
	212-0251	1	32 Volt-Begin Spec G	850-0040		1	32 Volt-Specs A through D
	212-0221	1	32 Volt-Specs A through F	234-0127		1	Key 10
18			Brush, Commutator (DC)	29	850-0040	2	Washer, Lock - Spring
	214-0041	4	Keys 1,2 - Specs A through J	850-0040		1	Keys 1,2 - Specs A through D (1/4")
			Key 3	30	800-0016	2	Key 3 (32 Volt) - Specs A through D (1/4")
	214-0009	4	24 Volt-Begin Spec H	800-0016		2	Screw, Cap - Hex Head
	214-0047	4	24 Volt-Specs A through G	31	232-0596	1	Keys 1,2 - Specs A through D (1/4-20 x 3-1/4")
	214-0009	4	32 Volt-Begin Spec G	232-0596		1	Key 3 (32 Volt) - Specs A through D (1/4-20 x 3-1/4")
	214-0047	4	32 Volt-Specs A through F	31	232-0596	1	Clip, Armature Bearing Stop
	214-0039	4	Key 10	32	312-0017	1	Key 3 (24 Volt) - Specs A through G
18	214-0072	2	Brush, Collector Ring (AC) - Keys 1,2 - Begin Spec K	312-0017		1	Key 3 (32 Volt) - Specs A through F
19	214-0059	4	Brush, Collector Ring (AC) - Keys 1,2 - Specs A through J	32	312-0058	1	Condenser, 0.5 Mfd.
20			Spring, Brush	312-0058		1	Keys 1,2 - Specs A through J
	212-1105	2	Collector Ring Brush (AC) - Keys 1,2 - Begin Spec K	312-0058		1	Keys 3,10
	212-1106	4	Commutator Brush (DC) - Key 3 (24 Volt) Specs A through G	33	232-1197	2	Condenser, 0.1 Mfd. - Keys 1,2
	212-1106	4	Commutator Brush (DC) - Key 3 (32 Volt) Specs A through F	33	232-1197	2	Spacer, Scroll Mounting
21			Spring, Brush	34	232-1197	2	Keys 1,2 - Specs A through F
	212-1003	4	Commutator Brush (DC) - Keys 1,2 - Specs A through J	232-1197		1	Key 3 (24 Volt) - Specs A through G
	212-1003	4	Commutator Brush (DC) - Key 3 (24 Volt) Begin Spec H	35	234-0007	1	Key 3 (32 Volt) - Specs A through F
	212-1003	4	Commutator Brush (DC) - Key 3 (32 Volt) Begin Spec G	234-0007		1	Scroll, Air
	212-1003	4	Commutator Brush (DC) - Key 10	234-0007		1	Keys 1,2 - Specs A through F
22			Rectifier - Keys 1,2 - Begin Spec K	234-0007		1	Key 3 (32 Volt) - Specs A through G
	305-0473	1	120 Volt	234-0007		1	Key 3 (24 Volt) - Specs A through G
	305-0474	1	240 Volt	234-0007		1	Key 3 (32 Volt) - Specs A through F
23	212-1064	2	Guide, Brush - Keys 1,2 - Specs A through J	35	234-0007		
24			Washer, Lock - Spring (#10)				
	850-0030	2	Keys 1,2 - Specs E and F				
			Key 3				
	850-0030	2	24 Volt-Specs A through G				
	850-0030	2	32 Volt-Specs E and F				

† - Included in 201-1512, 201-1513, 201-1525,
201-1526 Armature Assembly.

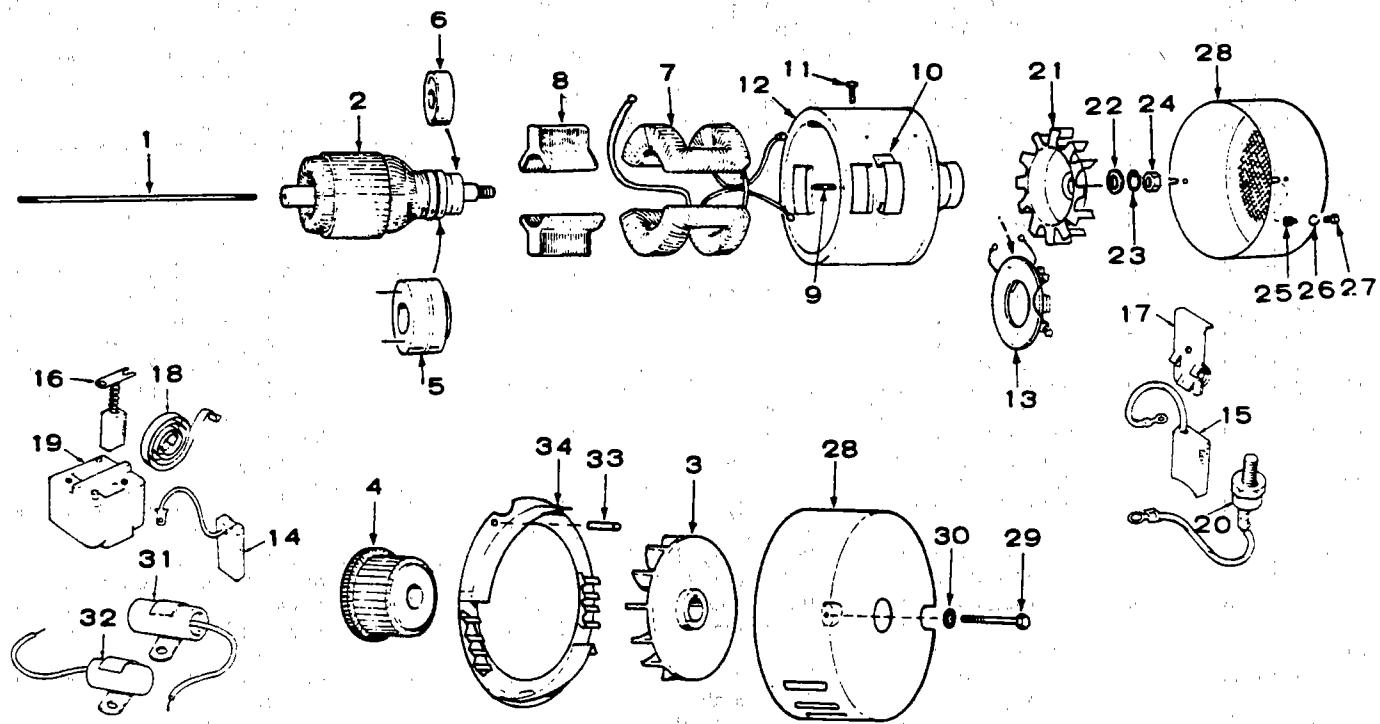
⊖ - Included in 201-1071, 201-1072, 201-1073,
201-1190 Armature Assembly.

⊖ - Included in 201-0677, 201-0688, 201-0721,
201-0798 Armature Assembly.

- Included in 201-1075, 201-1093, 201-1189
Armature Assembly.

§ - Included in 201-0693, 201-1109 Armature Assembly.

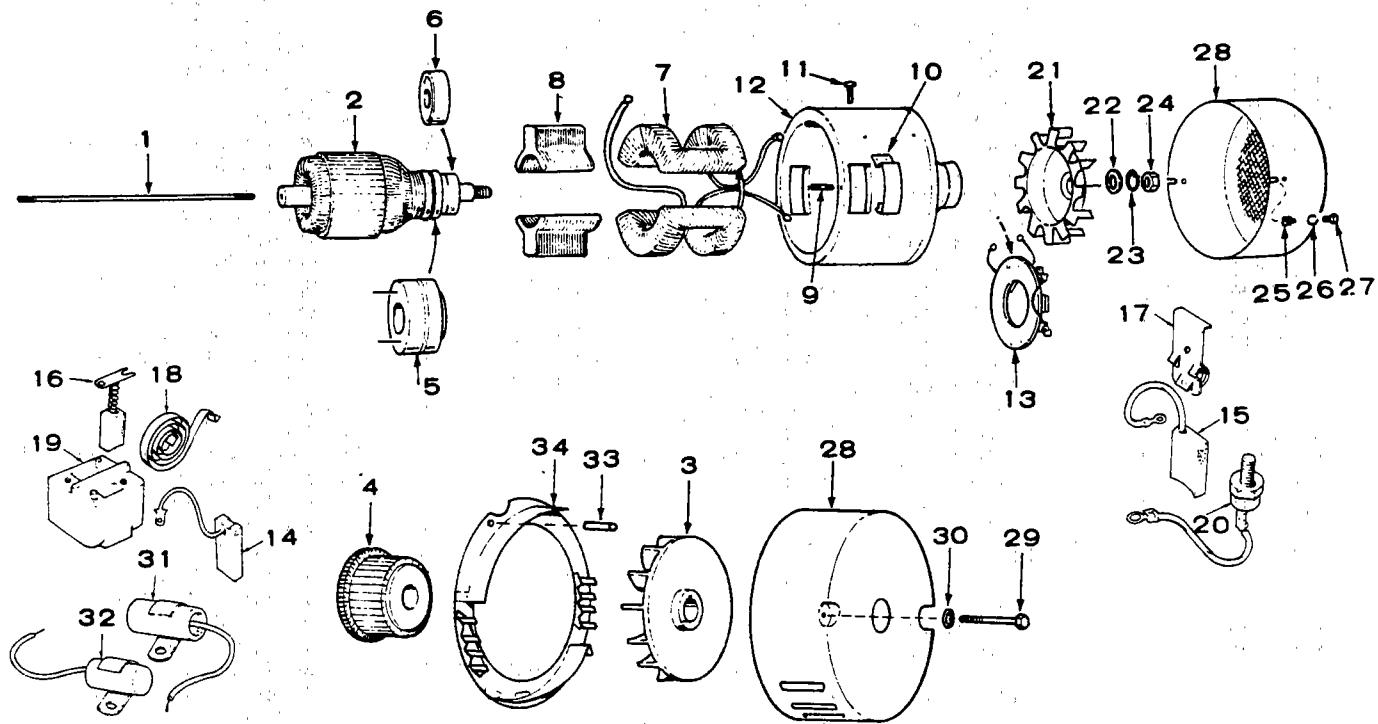
Generator (Two Pole Type) - Keys 4,5,6,7,8,9



Generator (Two Pole Type) - Keys 4,5,6,7,8,9

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION	
1			Stud, Armature Through Keys 4,5				Key 9 Begin Spec H (Includes Bearing, Collector Ring and Commutator)	
520-0056	1	1	Begin Spec B				50 Hertz	
520-0280	1	1	Spec A	201-1191	1	1	60 Hertz	
520-0536	1	1	Keys 6,7	201-1140	1	1	Specs A through G (Includes Bearing, Collector Ring and Commutator)	
520-0285	1	1	Key 8				50 Hertz	
520-0563	1	1	Key 9				60 Hertz	
2			Armature Assembly Keys 4,5				Blower, Cooling - Keys 4,5 - Spec A	
			Begin Spec H (Includes Bearing and Collector Ring)	201-1100	1	1	Commutator	
			120 Volt, 50 Hertz	201-1043	1	1	Keys 4,5,6,7 - Specs A through G	
201-1343	1	1	120 Volt, 60 Hertz	3	205-0047	1	Keys 8,9	
201-1346	1	1	240 Volt, 50 Hertz	4	203-0117	1	Ring, Collector Keys 4,5	
201-1344	1	1	240 Volt, 60 Hertz		203-0133	1	Begin Spec H	
201-1347	1	1	Specs B through G (Includes Bearing, Collector Ring and Commutator)		204-0097	1	Specs A through G	
			120 Volt, 50 Hertz		204-0087	1	Keys 6,7	
201-0811	1	1	120 Volt, 60 Hertz		204-0101	1	Begin Spec H	
201-0800	1	1	240 Volt, 50 Hertz		204-0089	1	Specs A through G	
201-0812	1	1	240 Volt, 60 Hertz		204-0087	1	Key 8	
201-0810	1	1	Spec A (Includes Bearing, Collector Ring, Commutator and Blower)		204-0089	1	Key 9	
			120 Volt, 50 Hertz	6	510-0047	1	Bearing, Ball	
201-0799	1	1	120 Volt, 60 Hertz	7			Coil Assembly, Field (2 Coils Wired Together)	
201-0679	1	1	240 Volt, 50 Hertz				Keys 4,5 - Begin Spec H	
201-0795	1	1	240 Volt, 60 Hertz				120 Volt	
201-0753	1	1	Keys 6,7				240 Volt	
			Begin Spec H (Includes Bearing and Collector Ring)		222-1643	1	Keys 6,7 - Begin Spec H	
			50 Hertz		222-1644	1	Keys 4,5,6,7 - Specs A	
201-1364	1	1	60 Hertz		222-1643	1	through G	
201-1348	1	1	Specs A through G (Includes Bearing, Collector Ring and Commutator)		222-1419	1	Keys 8,9	
			50 Hertz		222-1598	1	Begin Spec H	
			60 Hertz		222-1561	1	Specs A through G	
			Specs A through G (Includes Bearing, Collector Ring and Commutator)	8	221-0112	2	Shoe, Pole Keys 4,5,6,7	
201-0853	1	1	50 Hertz		221-0135	2	Keys 8,9	
201-0829	1	1	60 Hertz		520-0363	2	Stud, Frame to Engine Keys 4,5,6,7 (1/4 x 1-9/16")	
			Key 8		520-0363	4	Keys 8,9 (1/4 x 1-9/16")	
			Begin Spec H (Includes Bearing, Collector Ring and Commutator)	10	234-0169	2	Cover, Generator Air Opening Keys 4,5,6,7	
201-1164	1	1	120 Volt, 50 Hertz		234-0119	2	Keys 8,9	
201-1141	1	1	120 Volt, 60 Hertz		234-0124	2	Begin Spec G	
201-1180	1	1	240 Volt, 50 Hertz		11	102-0455	2	Specs A through F
201-1224	1	1	240 Volt, 60 Hertz				Screw, Cap - Hex Head (Special)	
			Specs A through G (Includes Bearing, Collector Ring and Commutator)					
201-1137	1	1	120 Volt, 50 Hertz					
201-1044	1	1	120 Volt, 60 Hertz					
201-1106	1	1	240 Volt, 50 Hertz					
201-1117	1	1	240 Volt, 60 Hertz					

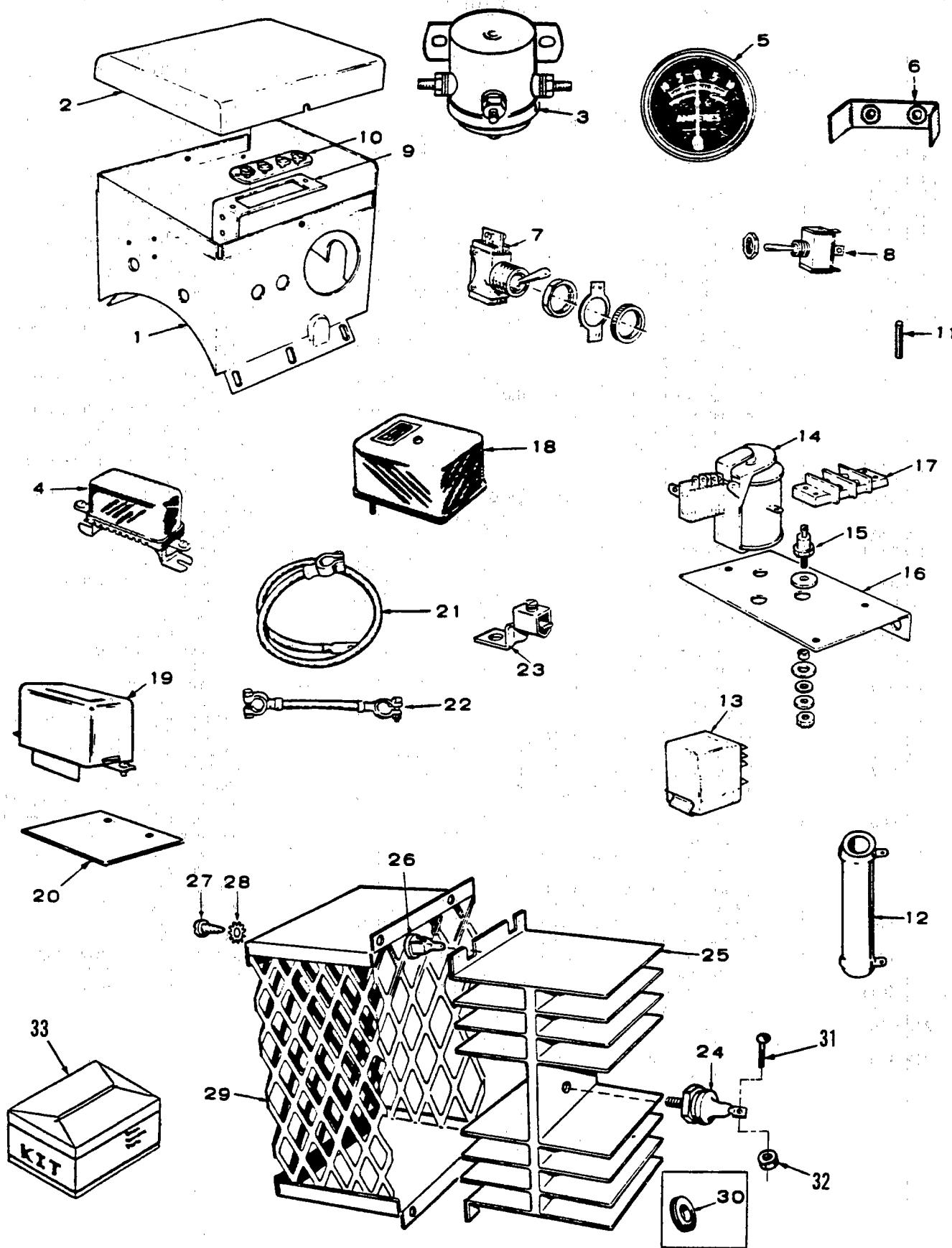
Generator (Two Pole Type) - Keys 4,5,6,7,8,9



Generator (Two Pole Type) - Keys 4,5,6,7,8,9

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION	
12			Frame (Machined and Drilled for Coils and Pole Shoes)	20			Rectifier	
			Keys 4,5	305-0473		2	Keys 4,5 - Begin Spec H	
	210-1716	1	Begin Spec G	305-0474		2	120 Volt	
	210-1562	1	Spec E and F	305-0473		2	240 Volt	
	210-1532	1	Specs C and D	21			Keys 6,7 - Begin Spec H	
	210-1532	1	Spec B	205-0056		1	Blower, Cooling	
	210-1464	1	Spec A	205-0056		1	Keys 4,5 - Begin Spec B	
			Keys 6,7	22	526-0029	1	Keys 6,7,8,9	
	210-1718	1	Begin Spec G	23	850-0050	1	Washer, Flat (25/64" ID x 7/8" OD x 1/16" Thk)	
	210-1543	1	Specs A through F	24	104-0091	1	Washer, Lock - Spring (3/8")	
			Key 8	25			Nut, Hex (Special)	
	210-1719	1	Begin Spec G	26	232-1557	2	Clip, End Cover Mounting	
	210-1704	1	Specs A through F		232-1557	2	Keys 4,5,6,7 - Begin Spec G	
			Key 9		232-1557	2	Keys 8,9	
	210-1720	1	Begin Spec G	27	850-0025	2	Washer, Lock - Spring	
	210-1701	1	Specs A through F		850-0025	2	Keys 4,5 - Specs E and F (#10)	
13			Rig Assembly, Brush (Includes Brushes, Springs, Holders and Rectifiers)				Keys 6,7,8,9 - Specs A through F (#10)	
			Keys 4,5 - Begin Spec H	27	815-0181	2	Screw, Cap - Hex Head	
	212-0292	1	120 Volt		815-0181	2	Keys 4,5 - Begin Spec E (#10-32 x 1/2")	
	212-0305	1	240 Volt				Keys 6,7,8,9 (#10-32 x 1/2")	
	212-0215	1	Keys 4,5 - Specs A through G	28			Cover, End	
			Keys 6,7				Keys 4,5	
	212-0401	1	Begin Spec H	234-0127		1	Begin Spec G	
	212-0230	1	Specs A through G		234-0127	1	Specs E and F	
			Key 8		234-0004	1	Specs B through D	
	212-0277	1	Begin Spec H		232-1214	1	Spec A	
	212-0277	1	Specs A through G				Keys 6,7,9	
			Key 9	234-0129		1	Begin Spec G	
	212-0273	1	Begin Spec H	234-0129		1	Specs A through F	
	212-0261	1	Specs A through G				Key 8	
14			Brush, Commutator (DC)	234-0127		1	Begin Spec G	
	214-0001	2	Keys 4,5,6,7 - Specs A through G	234-0127		1	Specs A through F	
	214-0070	2	Keys 8,9	234-0497		1	Begin Spec N - 50 Hertz only (Key 8)	
15			Brush, Collector Ring (AC)	29	800-0016	2	Screw, Cap - Hex Head (1/4-20 x 3-1/4") - Keys 4,5 (Specs A through D)	
	214-0072	2	Keys 4,5,8 - Begin Spec H		30	850-0040	2	
	214-0072	3	Keys 6,7,9 - Begin Spec H		31	312-0017	1	Washer, Lock - Spring (1/4") - Keys 4,5 (Specs A through D) Condenser (0.5 Mfd.)
16			Brush and Spring, Collector Ring (AC)				Keys 4,5,6,7 - Specs A through G	
	214-0059	4	Keys 4,5,8 - Specs A through G	32	312-0017	1	Keys 8,9	
	214-0059	6	Keys 6,7,9 - Specs A through G	312-0058		1	Condenser (0.1 Mfd.)	
17			Spring, Collector Ring Brush	312-0058		2	Keys 4,5,8	
	212-1105	2	Keys 4,5,8 - Begin Spec H	33	312-0058	2	Keys 6,7,9	
	212-1105	3	Keys 6,7,9 - Begin Spec H	232-1197		2	Spacer, Scroll Mounting - Keys 4,5 - Spec A	
18			Spring, Commutator Brush		232-1197	2	Scroll, Air - Keys 4,5 - Spec A	
	212-1003	2	Keys 4,5,6,7 - Specs A through G	34	234-0007	1		
	212-1011	2	Keys 8,9					
			Guide, Brush					
	212-1064	2	Keys 4,5,8 - Specs A through G					
19			Keys 6,7,9 - Specs A through G					
	212-1162	2						

Control - Keys 2,3,8,9



Control - Keys 2,3,8,9

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Box, Control	13	307-0642	1	*Relay, Start - Disconnect - Keys 8,9 - Begin Spec H
	301-4660	1	Key 2 Begin Spec G	14	306-0028	1	Relay, Start - Disconnect - Keys 8,9 - Specs A through G (Replaced by 307-0642)
	301-1059	1	Specs A through F	15	305-0235	1	Rectifier (10 Amp, 100 Volt Peak) - Keys 8,9 - Specs A through G
	301-3408	1	Key 3 Begin Spec L	16	301-1829	1	Bracket, Relay and Rectifier - Keys 8,9 - Specs A through G
	301-3408	1	24 Volt-Specs A through K	17	332-0609	1	Block, Terminal (2 Place) - Keys 8,9 - Specs A through G
	301-1868	1	32 Volt-Specs G through K	18	307-0112	1	Relay, Reverse Current - Key 3 24 Volt, Specs A through K
	301-1128	1	32 Volt-Spec F		307-0185	1	32 Volt, Specs A through E
	301-1127	1	32 Volt-Specs A through E	19	307-0496	1	Relay, Reverse Current - Key 3 - 32 Volt - Specs F through K
	301-4659	1	Keys 8,9 Begin Spec H	20	301-0592	1	Insulator, Reverse Current Relay - Key 3 - 32 Volt - Specs F through K
	301-4659	1	Spec G	21	416-0077	2	Cable, Battery (28") - Keys 2,8,9
	301-1823	1	Specs A through F	22	416-0133	1	Cable, Battery Jumper (6-3/4") - Keys 2,8,9
2			Cover, Control Box - Keys 2,3,8,9	23	332-0142	1	Terminal, Solderless - Ground
	301-1858	1	Begin Spec G	24	358-0038	1	Diode, Key 3 - Begin Spec L
	301-1060	1	Specs A through F	25	363-0057	1	Sink, Heat - Key 3 - Begin Spec L
3			Switch, Start Solenoid	26	870-0196	4	Nut, Insulating - Key 3 - Begin Spec L
	307-1046	1	Keys 2,8,9	27	809-0035	4	Screw, Round Head Tapping (#8 x 3/4") - Key 3 - Begin Spec L
	307-0061	1	Key 3	28	853-0005	4	Washer, Lock - ET (#8)
4	307-0180	1	Relay, Reverse Current	29	301-3395	1	Box, Heat Sink Mounting - Key 3 - Begin Spec L
5			Ammeter, Charge (Includes Bracket) (Kit)	30	508-0109	1	Grommet, Diode Leads - Key 3 - Begin Spec L (11/16 ID x 1-5/16" OD)
	302-1360	1	Key 2	31	812-0076	1	Screw, Machined - Round Head (#8-32 x 1/4")
			Key 3	32	870-0221	1	Nut, Hex - External Tooth (#8-32)
	302-1364	1	24 Volt	33	307-1978	1	Relay Kit (Includes Parts Marked *)
	302-1363	1	32 Volt				
6	302-0270	1	Bracket, Ammeter - Keys 2,3				
7	308-0002	1	Switch, Charge Rate (Hi-Lo) - Key 2				
8			Switch, Start-Stop				
	308-0154	1	Keys 2,8,9 Begin Spec G				
	308-0166	1	Specs A through F				
			Key 3				
	308-0155	1	Begin Spec G				
	308-0029	1	Specs A through F				
9	332-0198	1	Bracket, Terminal Block - Keys 2,3,8,9				
10	332-0222	1	Block, Terminal - Keys 2,3,8,9				
11	332-0125	1	Stud, Brass - Key 3				
12			Resistor, Charge				
	304-0268	1	Key 2 - Adjustable				
			Begin Spec G (5-Ohm, 50 Watt)				
	304-0066	1	Specs A through F (10-Ohm, 50 Watt)				
			Keys 8,9 - Fixed				* - Part Included in 307-1978 Relay Kit.
	304-0046	1	Begin Spec H (10-Ohm, 50 Watt)				
	304-0002	1	Specs A through G (15-Ohm, 50 Watt)				

Service Kits and Miscellaneous

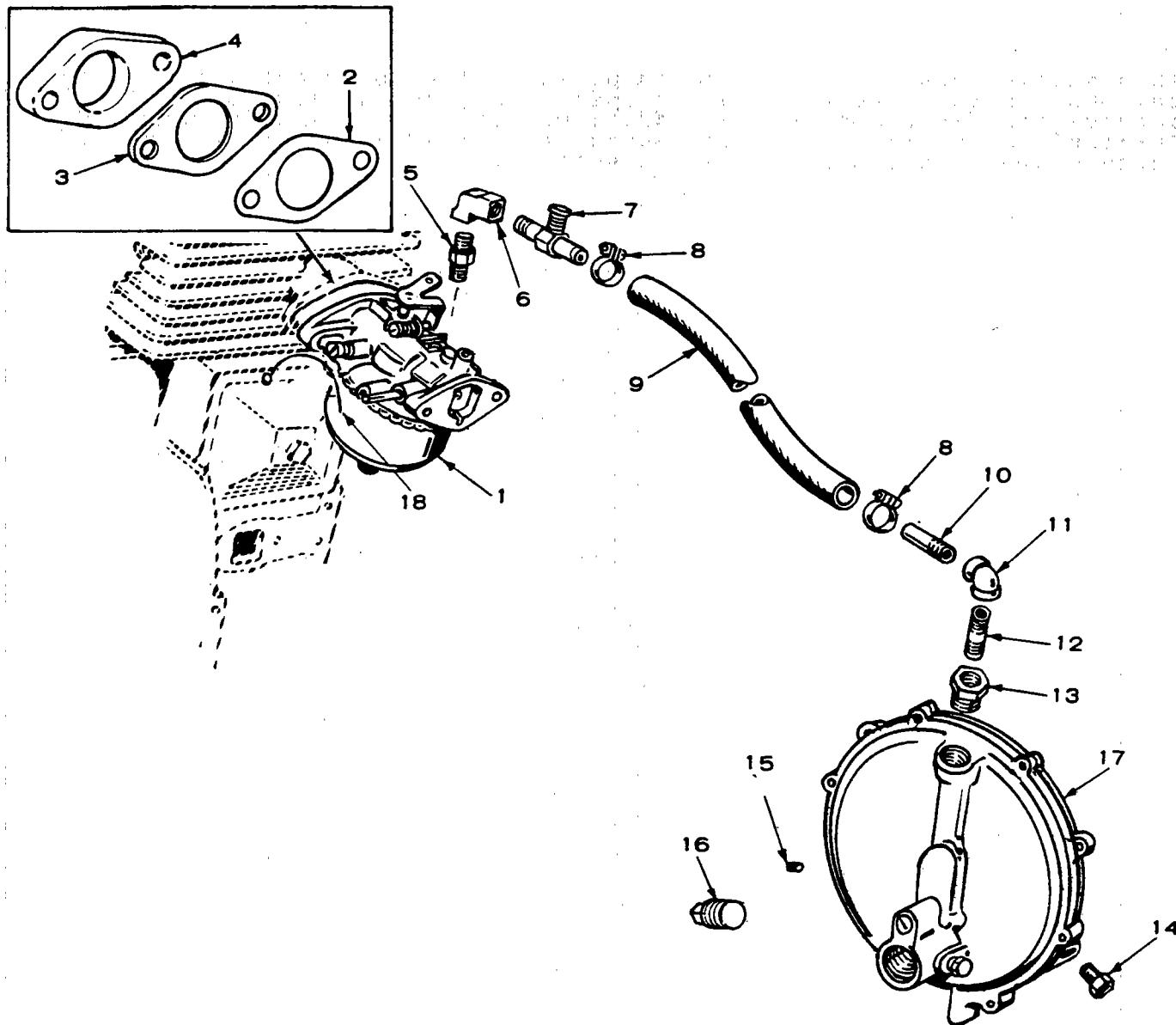
REF. NO.	PART NO.	QTY USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY USED	PART DESCRIPTION
	98-1100	1	Decal Kit		412-0004	1	Cover, Canvas, Weatherproof (Accessory)
	168-0062	1	Gasket Kit, Generator Set		333-0124	1	Cold Weather Heater Kit (300 Watt, 120 Volt) -
	522-0232	1	Overhaul Kit, Generator Set				Mounts on Cylinder Head
	522-0215	1	Begin Spec K				Under Shroud
	525-0137	1	Spec A through J		405-2243	1	Housing Kit, Generator Set
	525-0305	1	Touch-Up Paint (Pressurized Can) - (13 oz.)				
		1	Metallic Green				
		1	Non-Metallic Green				

NOTE: For other kits, refer to the group for the part in question.

OPTIONAL EQUIPMENT PARTS SECTION

This section contains illustrated parts listing of factory installed options for the generator sets. Options may not be applicable to all models; for field conversions additional parts are usually required. Optional parts listed in this section are in addition or in place of those shown in the standard parts section.

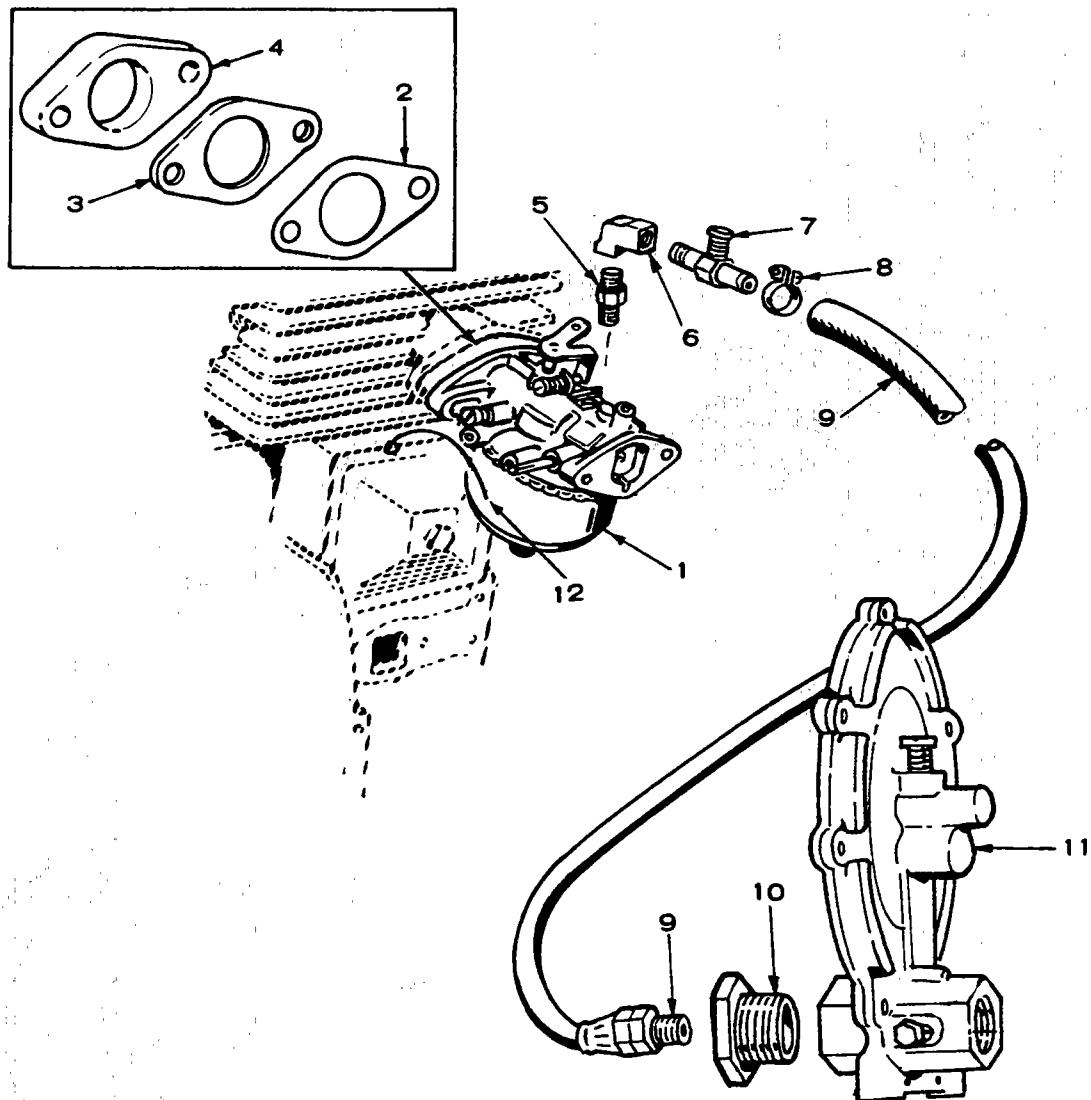
Fuel System (Gas-Gasoline) with Garretson Regulator
Optional



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1 146-0298	Carburetor, Gas-Gasoline (Includes Mounting Gasket)	1	Keys 1,3,4,5,6,7,10 (Manual Choke)	9 503-0315	Hose, Regulator to Carburetor (1/2" ID x 2 Ft. Long)	1	
2 141-0078	Gasket, Carburetor Mounting	1	Keys 2,8,9 (Electric Choke)	10 505-0302	Nipple, Half (1/4 x 1-1/2")	1	
3 145-0469	Plate, Carburetor Mounting	1		11 505-0038	Elbow, Pipe - 90° (1/4")	1	
4 145-0110	Spacer, Insulating	1		12 505-0099	Nipple, Close (1/4 x 7/8")	1	
5 502-0082	Nipple, Pipe - Hex (1/8-1/8")	1		13 505-0017	Bushing, Reducer (3/8 x 1/4")	1	
6 502-0055	Elbow, Pipe (90°)	1		14 148-0107	Vent, Atmospheric	1	
7 148-0178	Adjusting Assembly, Gas	1		15 505-0057	Plug, Pipe (1/8")	2	
8 503-0032	Clamp, Hose	2		16 505-0130	Plug, Pipe (3/4")	1	
				17 148-0311	Regulator, Gas Pressure	1	
				18 145-0392	Lock, Carburetor Choke Shaft	1	
				148-0390	Kit, Repair - Gas Regulator	1	

NOTE: Refer to Standard Gasoline Fuel System Group for Air Cleaner, Air Cleaner Adapter, Fuel Pump, Fuel Filter and Fuel Lines (Gasoline).

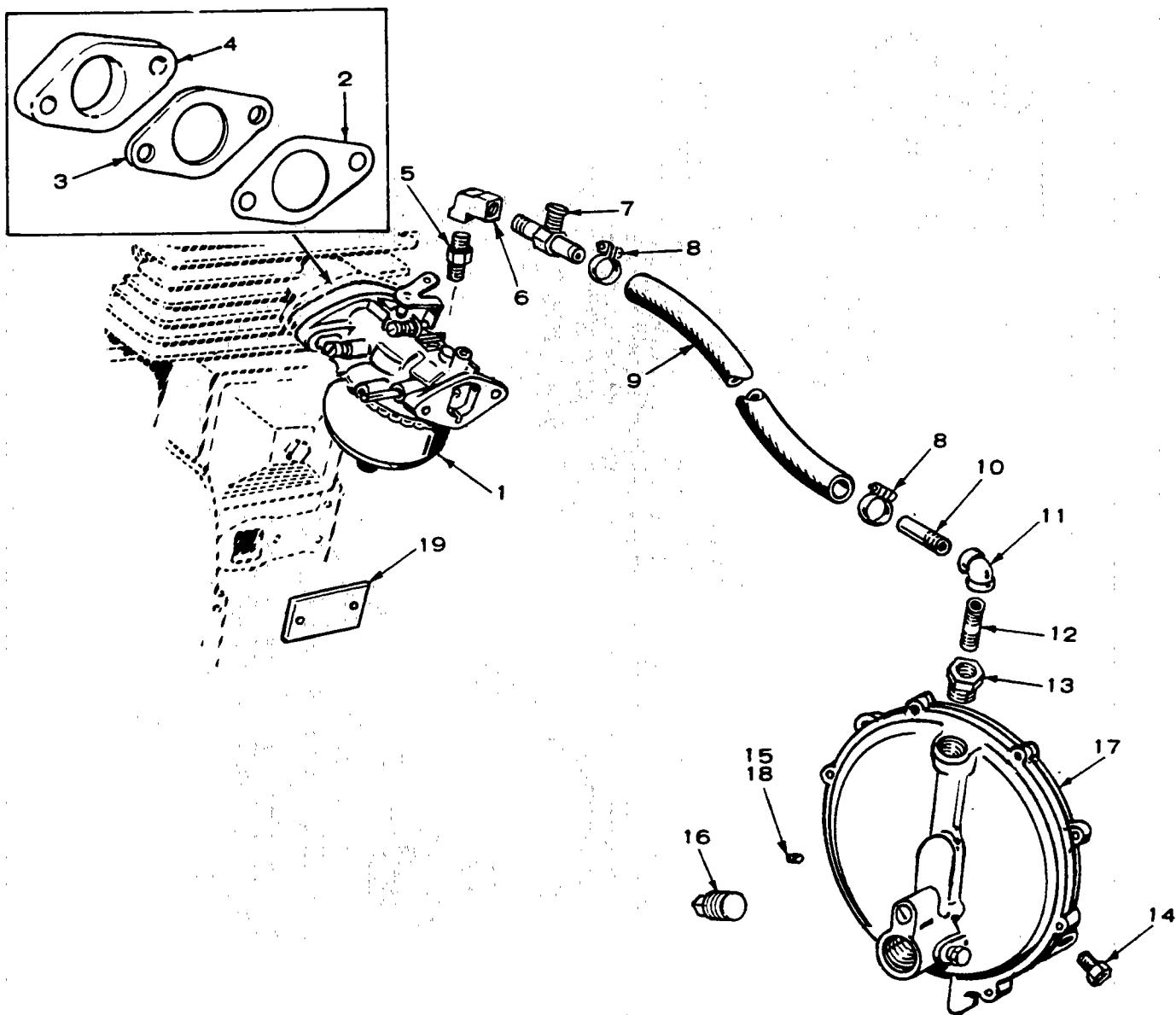
Fuel System (Gas-Gasoline) with Ensign Regulator
- Optional



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1			Carburetor, Gas-Gasoline (Includes Mounting Gasket)	7	148-0178	1	Adjusting Assembly, Gas
	146-0298	1	Keys 1,3,4,5,6,7,10 (Manual Choke)	8	503-0027	1	Clamp, Hose
146-0299		1	Keys 2,8,9 (Electric Choke)	9	501-0027	1	Hose, Regulator to Carburetor (48" Long)
2	141-0078	1	Gasket, Carburetor Mounting	10	505-0021	1	Bushing, Reducer (3/4 x 1/2")
3	145-0469	1	Plate, Carburetor Mounting	11	148-0311	1	Regulator, Gas Pressure
4	145-0110	1	Spacer, Insulating	12	153-0319	1	Lock, Choke Shaft
5	502-0082	1	Nipple, Pipe - Hex (1/8-1/8")		148-0300	1	Kit, Repair - Gas Regulator For Ensign Model F
6	502-0055	1	Elbow, Pipe (90°)		148-0522	1	For Ensign Model F1

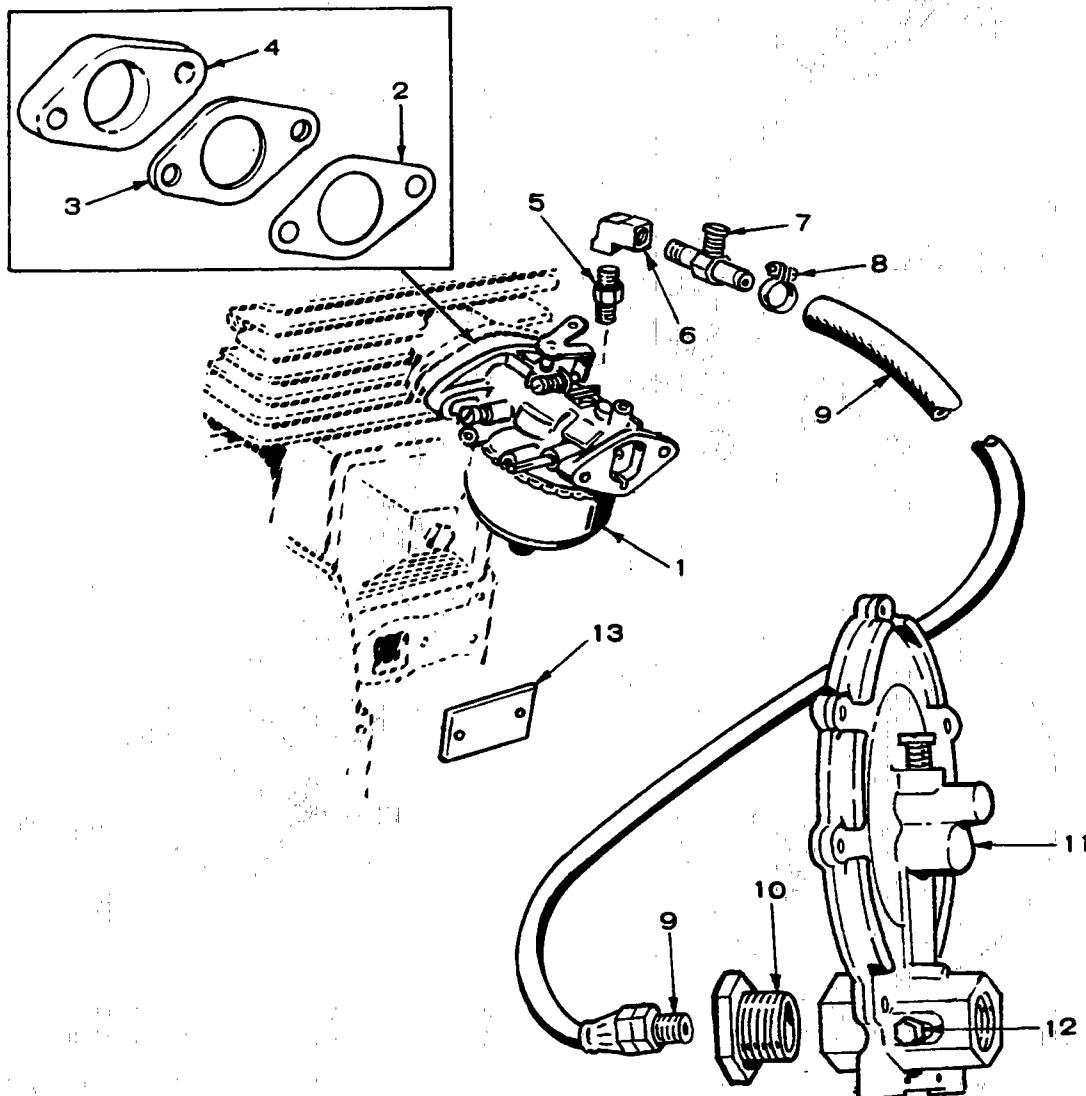
NOTE: Refer to Standard Gasoline Fuel Group for Air Cleaner, Air Cleaner Adapter, Fuel Pump, Fuel Filter and Fuel Lines (Gasoline).

Fuel System (Gas) with Garretson Regulator
- Optional



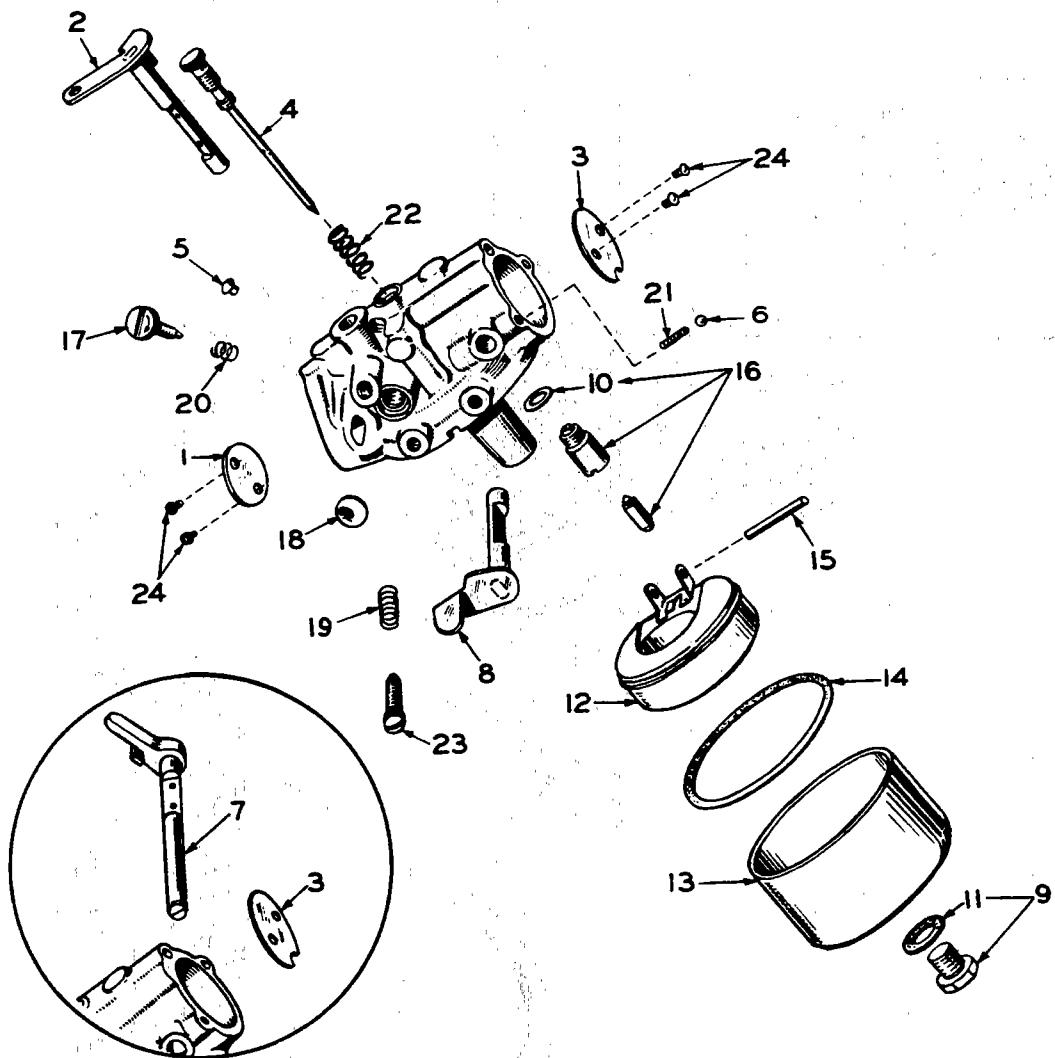
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	146-0295	1	Carburetor-Gas (Includes Mounting Gasket)	11	505-0038	1	Elbow, Pipe - 90° (1/4")
2	141-0078	1	Gasket, Carburetor Mounting	12	505-0099	1	Nipple, Close (1/4 x 7/8")
3	145-0469	1	Plate, Carburetor Mounting	13	505-0017	1	Bushing, Reducer (3/8 x 1/4")
4	145-0110	1	Spacer, Insulating	14	148-0107	1	Vent, Atmospheric
5	502-0082	1	Nipple, Pipe - Hex (1/8-1/8")	15	505-0057	2	Plug, Pipe (1/8")
6	502-0055	1	Elbow, Pipe (90°)	16	505-0130	1	Plug, Pipe (3/4")
7	148-0178	1	Adjusting Assembly, Gas	17	148-0311	1	Regulator, Gas Pressure
8	503-0032	2	Clamp, Hose	18	505-0057	1	Plug, Pipe (1/8")
9	503-0315	1	Hose, Regulator to Carburetor (1/2" ID x 2 Ft. Long)	19	149-0136	1	Cover, Fuel Pump Hole in Cylinder Block
10	505-0302	1	Nipple, Half (1/4 x 1-1/2")		148-0390	1	Kit, Repair - Gas Regulator
					148-0510	1	Kit, Gas Conversion

**Fuel System (Gas) with Ensign Regulator
- Optional**



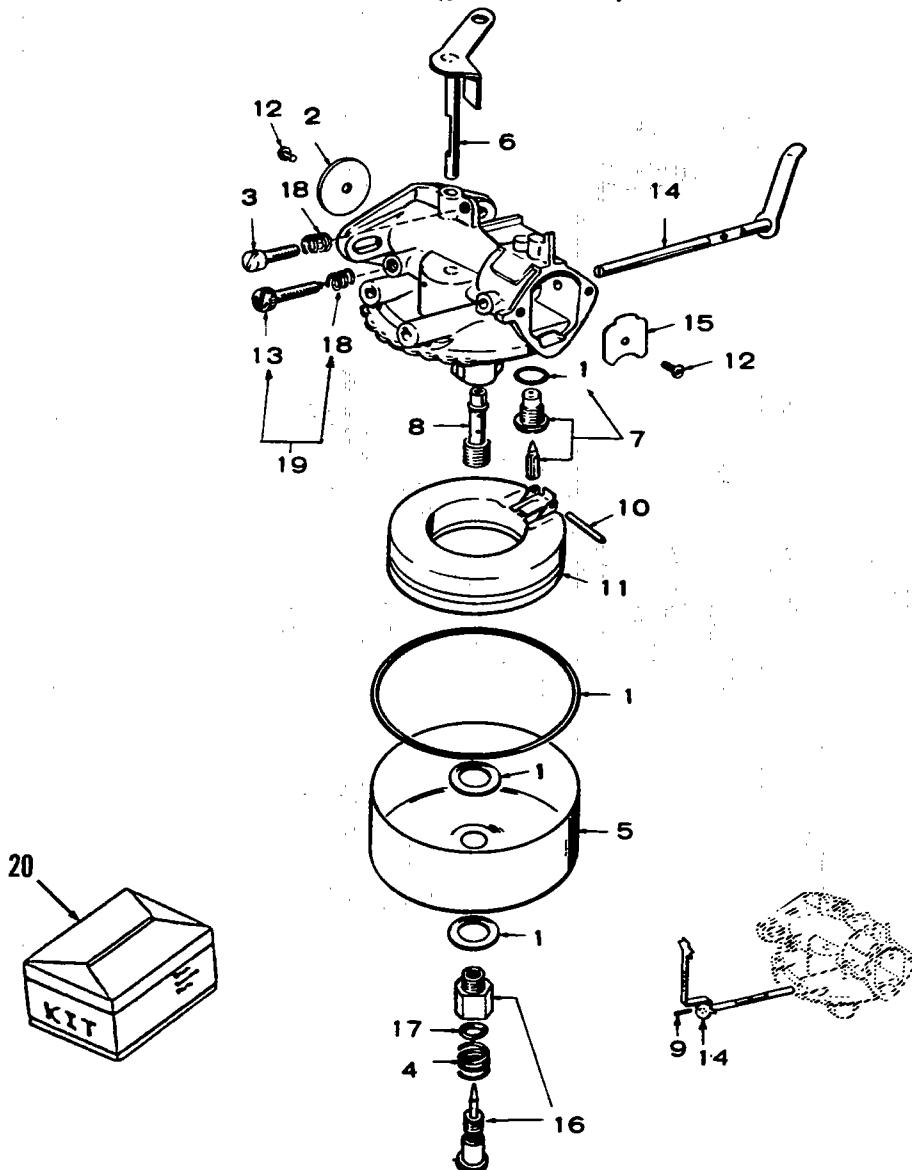
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	146-0295	1	Carburetor, Gas (Includes Mounting Gasket)	10	505-0021	1	Bushing, Reducer (3/4 x 1/2")
2	141-0078	1	Gasket, Carburetor Mounting	11	148-0311	1	Regulator, Gas Pressure
3	145-0469	1	Plate, Carburetor Mounting	12	505-0057	1	Plug, Pipe (1/8")
4	145-0110	1	Spacer, Insulating	13	149-0136	1	Cover, Fuel Pump Hole in Cylinder Block
5	502-0082	1	Nipple, Pipe - Hex (1/8-1/8")				Kit, Repair - Gas Regulator
6	502-0055	1	Elbow, Pipe (90°)	148-0300		1	For Ensign Model F
7	148-0178	1	Adjusting Assembly, Gas	148-0522		1	For Ensign Model F1
8	503-0027	1	Clamp, Hose				
9	501-0027	1	Hose, Regulator to Carburetor (48" Long)				

Carburetor Parts (Gas-Gasoline)
Specs A through J - Optional



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
		1	Carburetor, Gas-Gasoline	10	143-0015	1	#†*Gasket, Fuel Inlet Valve
		1	Keys 1,3,4,5,6,7,10 -	11	143-0036	1	#†*Gasket, Bowl Screw
			Replacement Carburetor	12	143-0105	1	Float
		1	146-0094 - Manual Choke	13	143-0119	1	Bowl
		1	Keys 2,8,9 - Replacement	14	143-0077	1	#†*Gasket, Bowl Ring
			Carburetor 146-0095 -	15	141-0703	1	#Pin, Float
			Electric Choke	16	143-0341	1	†Valve, Fuel Inlet Kit
143-0081	1	1	Repair Kit (Includes Parts Marked †)	17	143-0109	1	Screw, Idle Adjustment
143-0080	1	1	Gasket Kit (Includes Parts Marked *)	18	143-0110	1	Plug, Welsh
1	143-0097	1	Valve, Throttle	19	143-0111	1	Spring, Throttle Lever
2	143-0098	1	Shaft and Lever Throttle	20	143-0112	1	Adjusting Screw
3	143-0099	1	Valve, Choke	21	143-0113	1	Spring, Idle Adjusting Screw
	143-0267	1	Keys 1,3,4,5,6,7,10 -	22	143-0114	1	Spring, Choke Shaft Stop -
			Manual Choke				Keys 1,3,4,5,6,7,10
4	143-0099	1	Keys 2,8,9 - Electric Choke	23	143-0115	1	Spring, High Speed Adjusting
5	143-0078	1	#†Valve Needle	24	812-0014	4	Needle
5	143-0030	1	Plug, Idle Passage				Screw, Throttle Lever Adjusting
6	510-0083	1	Ball, Choke Shaft - Keys 1,3,				(#3-48 x 3/16")
		4,5,6,7,10		145-0110	1	†Screw, Round Head Machine	
7	143-0100	1	4,5,6,7,10				(#3-48 x 3/16")
8	143-0101	1	Shaft and Weight, Choke -				# - Included in 143-0081 Repair Kit.
9	143-0118	1	Keys 2,8,9				- - Included in 143-0080 Gasket Kit.
			Shaft and Lever, Choke -				# - Included in 143-0341 Kit.
			Keys 1,3,4,5,6,7,10				

Carburetor Parts (Gas-Gasoline)
Begin Spec K - Optional



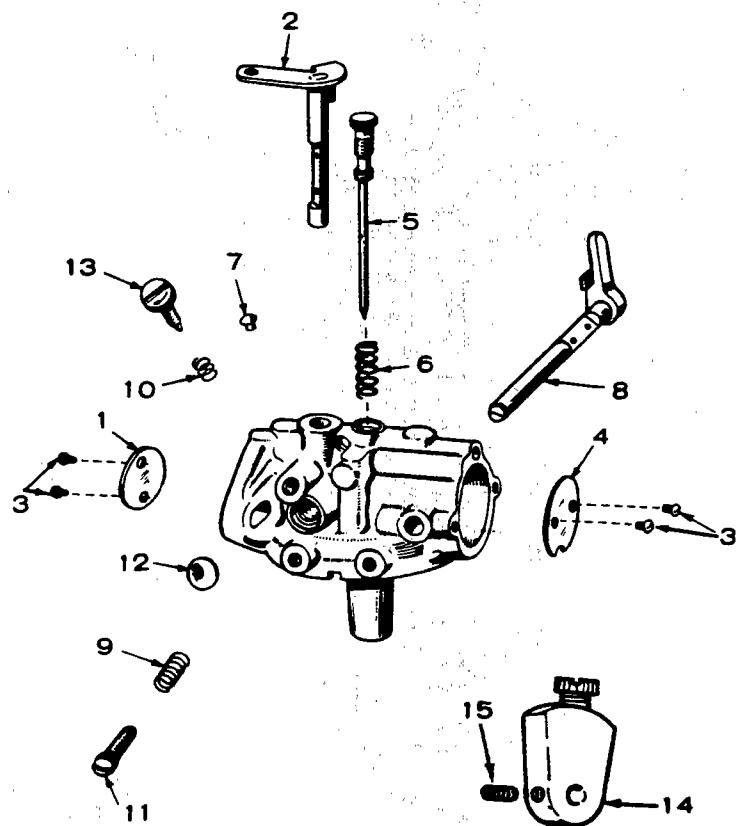
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
			Carburetor, Gas-Gasoline	14			Shaft Assembly, Choke
146-0094	1	1	Keys 1,3,4,5,6,7,10 (Manual Choke)	146-0108	1	1	Keys 1,3,4,5,6,7,10
146-0095	1	1	Keys 2,8,9 (Electric Choke)	146-0106	1	1	Keys 2,8,9
146-0123	1	1	Repair Kit, Carburetor (Includes Parts Marked *)	15			Valve, Choke
1 146-0124	1	1	*Gasket Kit, Carburetor	146-0105	1	1	Keys 1,3,4,5,6,7,10
2 146-0119	1	1	Valve, Throttle	146-0104	1	1	Keys 2,8,9
3 146-0122	1	1	+Screw, Throttle Stop	16	146-0102	1	*Needle Assembly, Power
4 146-0117	1	1	Spring, High Speed Needle	17	146-0120	1	Seal, "O" Ring - High Speed Needle
5 146-0118	1	1	Bowl, Fuel	18	146-0186	1	Spring, Throttle Stop Screw and Idle Screw
6 146-0112	1	1	Shaft Assembly, Throttle	19	146-0209	1	Needle Assembly, Idle Adjust (Package) (Includes Parts Marked \$)
7 146-0145	1	1	*Float Valve, Seat and Gasket Assembly	20	146-0261	1	Kit, Screw - Throttle Adjusting (Includes Parts Marked +)
8 146-0113	1	1	Nozzle				
9 146-0114	1	1	Spring, Choke Stop - Keys 1, 3,4,5,6,7,10				
10 146-0111	1	1	*Shaft, Float				
11 146-0110	1	1	Float Assembly				
12 146-0109	2	2	Screw and Washer				
13 146-0116	1	1	\$*Needle, Idle				

* - Included in 146-0123 Carburetor Repair Kit.

\$ - Parts Included in 146-0209 Needle Assembly (Package).

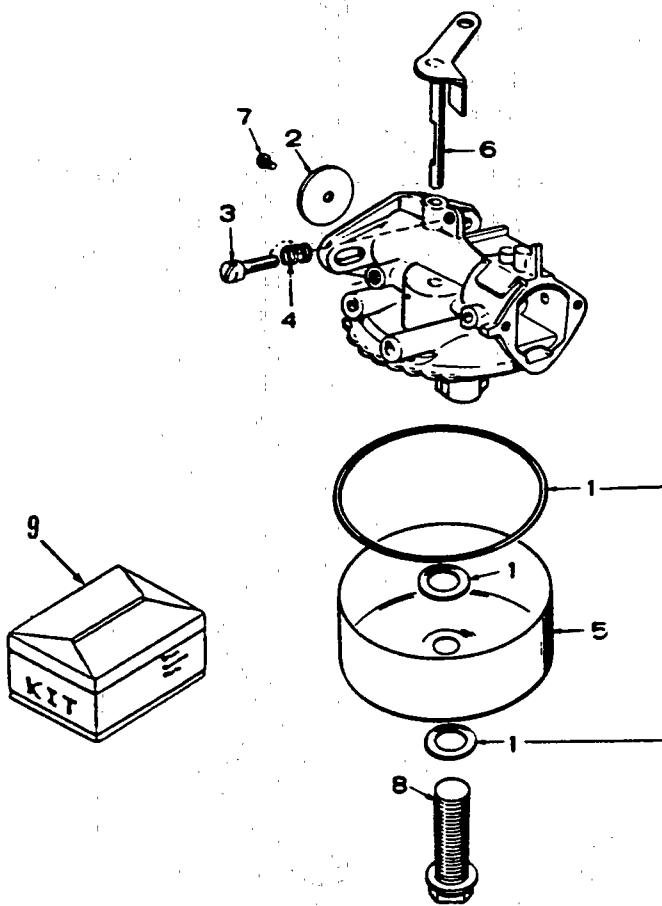
+ - Part Included in 146-0261 Kit.

**Carburetor Parts (Gas) - Specs A through J
- Optional**



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1 143-0097	1 143-0097	1	Carburetor, Gas (Replacement Carburetor Order Carburetor Number 146-0091)	8 143-0100	1	Shaft and Weight, Choke	
2 143-0098	1 143-0098	1	Valve, Throttle	9 143-0111	1	Spring, Throttle Stop Screw	
3 812-0014	4 812-0014	4	Shaft and Lever, Throttle	10 143-0112	1	Spring, Idle Adjusting Screw	
4 148-0269	1 148-0269	1	Screw, Round Head (#3-48 x 3/16")	11 143-0115	1	Screw, Throttle Stop	
5 148-0268	1 148-0268	1	Valve, Choke	12 143-0110	1	Plug, Welsh	
6 143-0114	1 143-0114	1	Valve, High Speed Needle	13 143-0109	1	Screw, Idle Adjustment	
7 143-0030	1 143-0030	1	Spring, High Speed Needle	14 148-0267	1	Counterweight, Choke Shaft	
			Plug, Idle Passage	15 148-0412	1	Non-Adjustable	
				15 815-0230	1	Adjustable	
							Screw, Set - Socket - Hex (1/4-20 x 5/8")

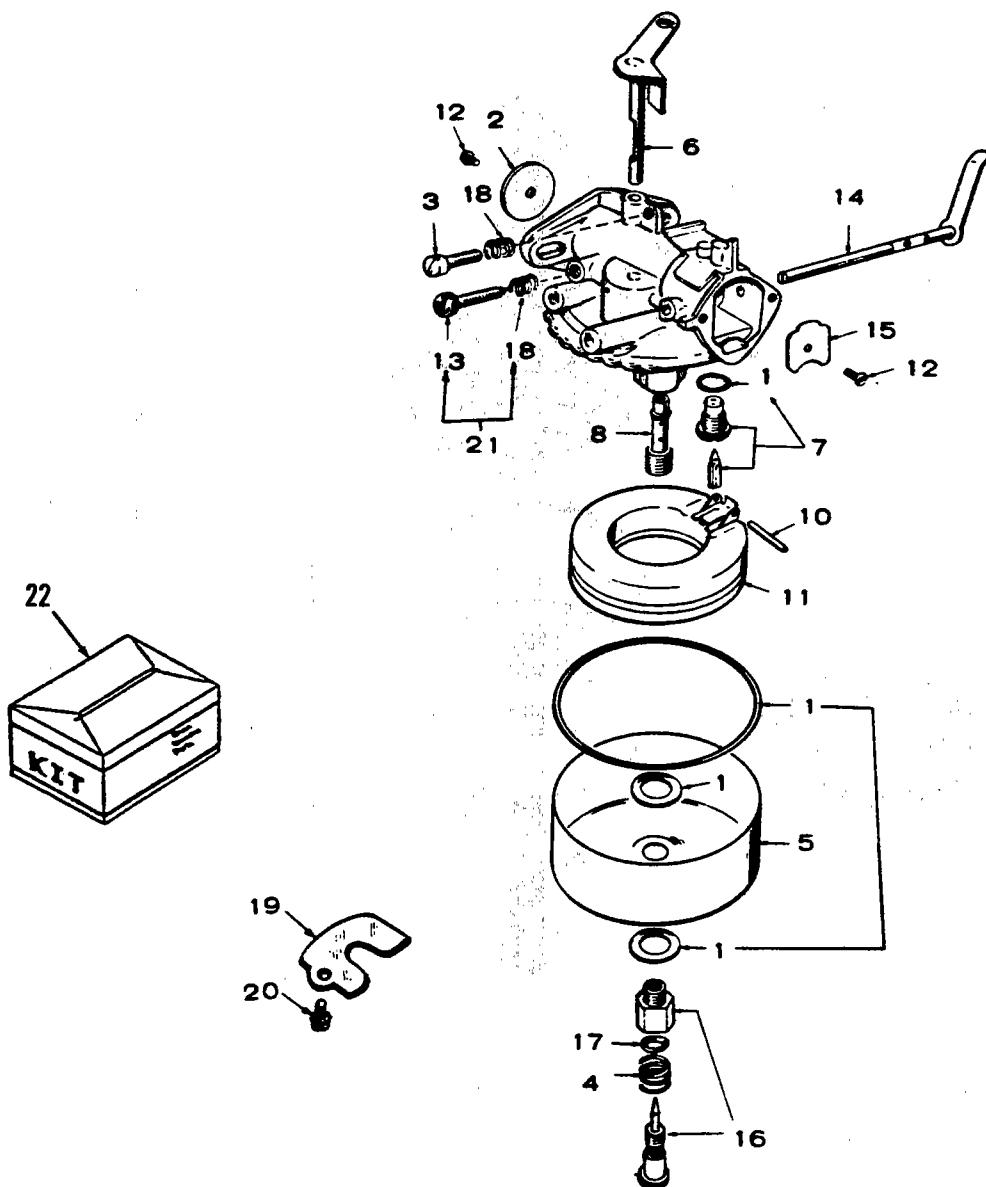
Carburetor Parts (Gas) - Begin Spec K
- Optional



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	146-0091	1	Carburetor, Gas	6	146-0112	1	Shaft Assembly, Throttle
1	146-0124	1	Gasket Kit, Carburetor	7	146-0109	1	Screw and Washer
2	146-0119	1	Valve, Throttle	8	146-0103	1	Screw, Bowl Retainer
3	146-0122	1	+Screw, Throttle Stop	9	146-0261	1	Kit, Screw - Throttle Adjusting (Includes Parts Marked +)
4	146-0186	1	+Spring, Throttle Stop Screw				
5	146-0118	1	Bowl, Fuel				

+ - Parts Included in 146-0261 Kit.

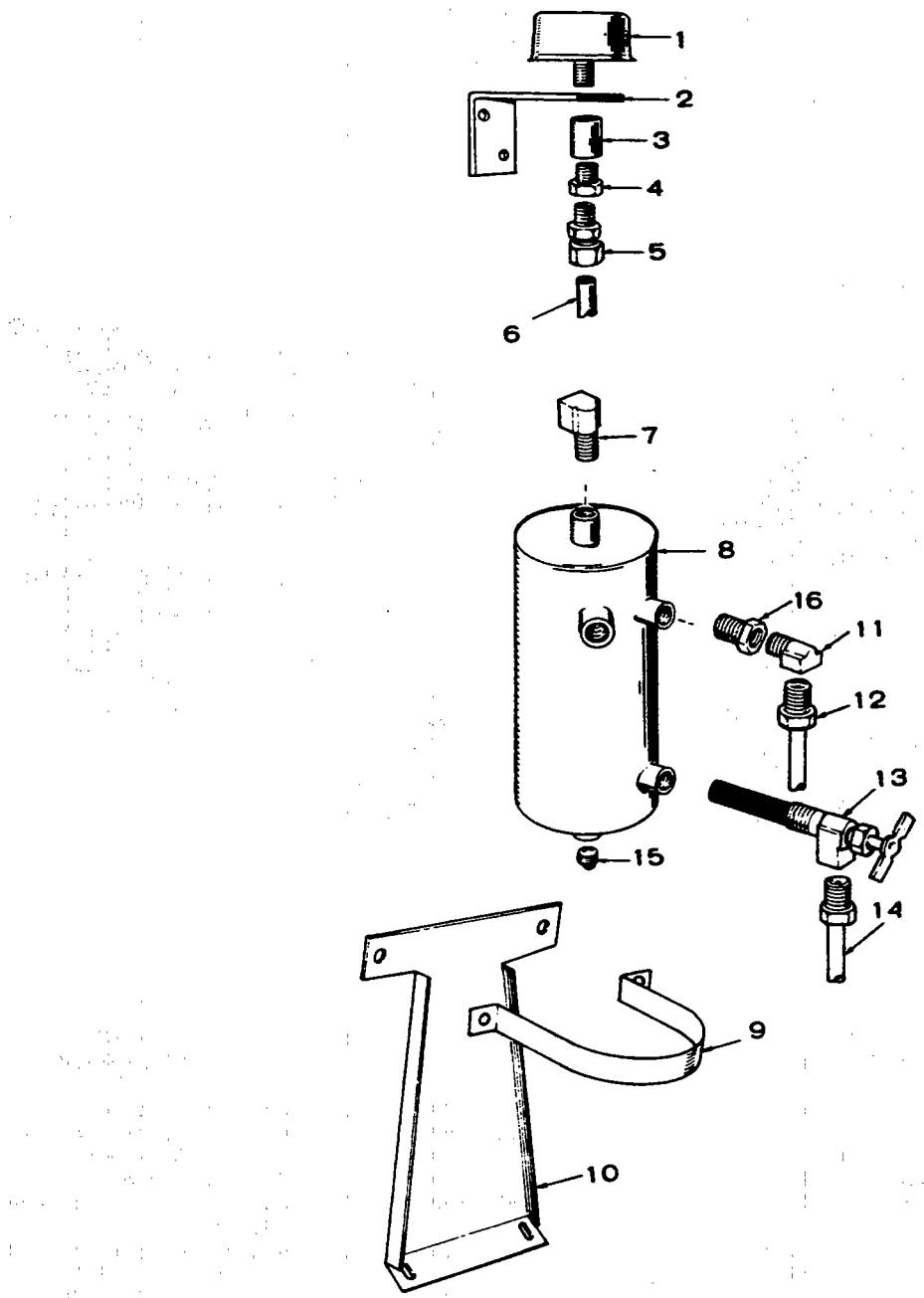
Carburetor Parts (Rough Service Gasoline)
Keys 2,8,9 - Begin Spec K
Optional



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	146-0140	1	Carburetor, Rough Service - (For complete Carburetor Assembly order #146-0305 Kit)	16	146-0102	1	Needle Assembly, Power
1	146-0124	1	Gasket Kit, Carburetor	17	146-0120	1	Seal, "O" Ring - High Speed Needle
2	146-0119	1	Valve, Throttle	18	146-0186	1	+*Spring, Throttle Stop Screw and Idle Screw
3	146-0122	1	+Screw, Throttle Stop	19	146-0143	1	Baffle, Splash
4	146-0117	1	Spring, High Speed Needle	20	146-0142	1	Screw and Washer, Splash Baffle Mounting
5	146-0118	1	Bowl, Fuel	21	146-0209	1	Needle Assembly, Idle Adjust (Package) (Includes Parts Marked *)
6	146-0112	1	Shaft Assembly, Throttle	22	146-0261	1	Kit, Screw - Throttle Adjusting (Includes Parts Marked +)
7	146-0145	1	Float Valve, Seat and Gasket Assembly				
8	146-0113	1	Nozzle				
10	146-0111	1	Shaft, Float				
11	146-0110	1	Float Assembly				
12	146-0109	2	Screw and Washer				
13	146-0116	1	*Needle, Idle				
14	146-0107	1	Shaft Assembly, Choke				
15	146-0104	1	Valve, Choke				

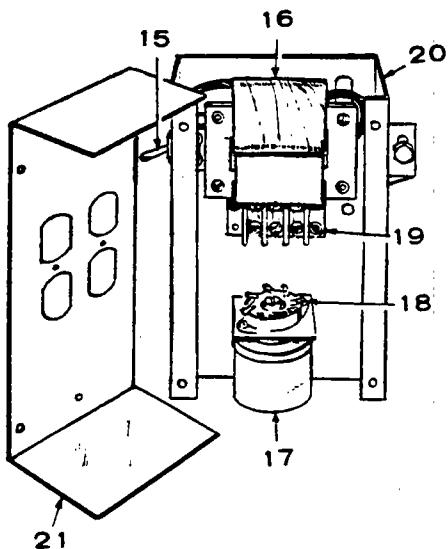
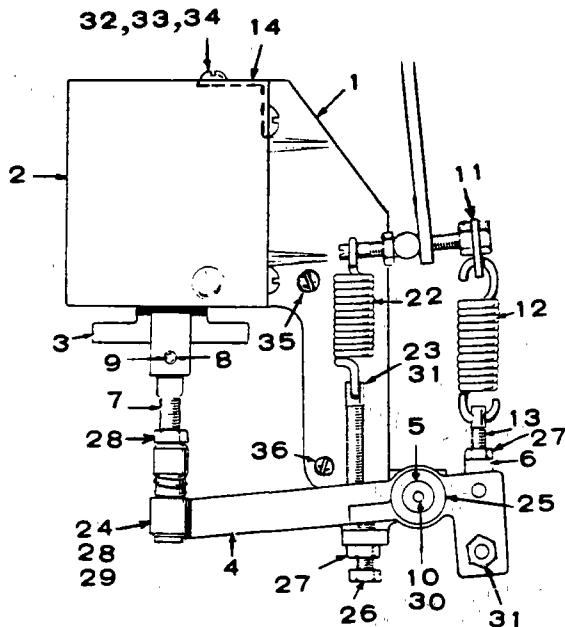
* - Parts Included in 146-0209 Needle Assembly (Package).
+ - Parts Included in 146-0261 Kit.

**Reservoir (Day) Tank - One Quart
- Optional**



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	159-0041	1	Cap, Vent	10	159-0567	1	Bracket, Reservoir Tank Mounting
2	415-0055	1	Bracket, Vent Cap	11	502-0002	1	Elbow, Street (90° - 1/4")
3	505-0028	1	Coupling, Pipe (3/8")	12	159-0569	1	Line, Fuel - to Fuel Pump (18")
4	505-0016	1	Bushing, Reducer (3/8 to 1/8")	13	504-0013	1	Valve, Shut-off
5	502-0116	1	Connector, Compression	14	159-0566	1	Line, Fuel - to Carburetor
6	159-0345	1	Tubing, Copper (5/16 x 12")	15	505-0057	1	Plug, Tank Drain (1/8")
7	502-0004	1	Elbow, Compression (90°)	16	502-0050	1	Bushing, Reducer (3/8 to 1/4")
8	159-0294	1	Tank, Reservoir				
9	159-0121	1	Band, Reservoir Tank				

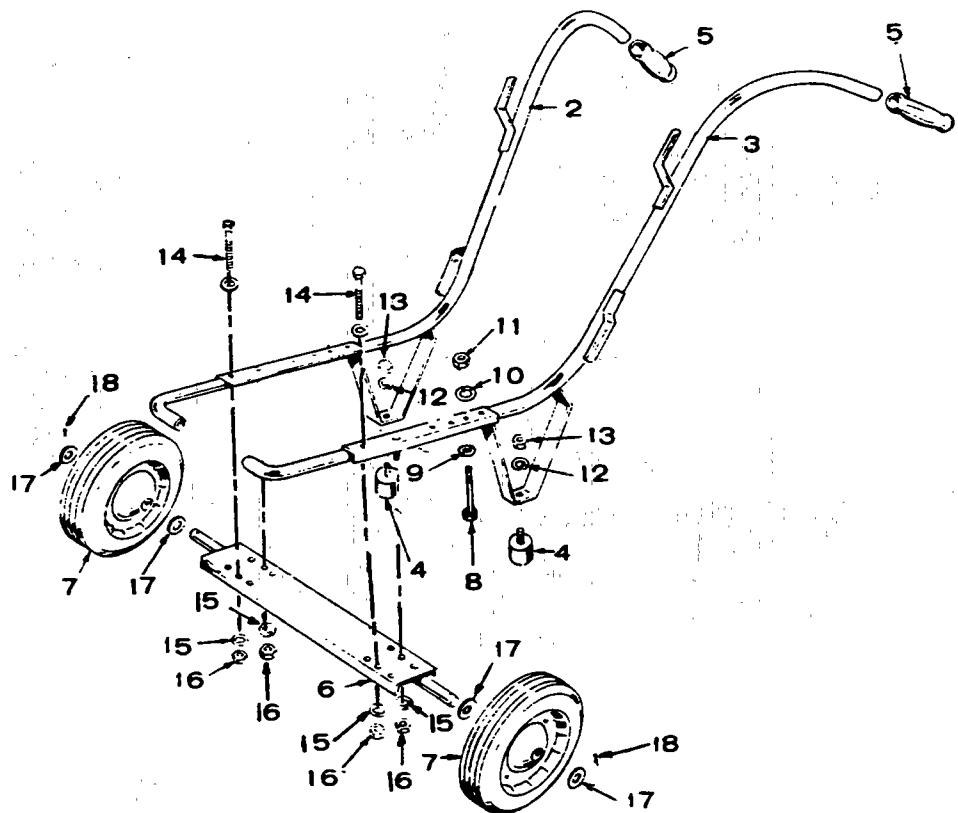
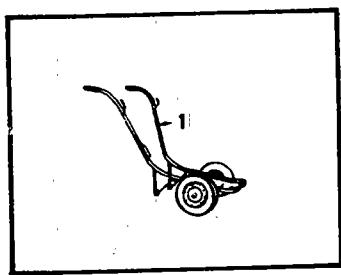
Idlematic Control - Keys 4,5,6,7
- Optional



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	150-0792	1	*Bracket, Solenoid	20	301-1898	1	Box, Receptacle
2	150-0795	1	Cover, Solenoid	21	302-1899	1	Cover, Receptacle Box
3	307-0604	1	Solenoid, Idle 120 Volt Models	22	150-0098	1	Spring, Governor
	307-0669	1	240 Volt Models	23	150-0213	1	*Stud, Governor
4	150-0794	1	*Lever, Idle	24	150-0638	1	Joint, Ball - Idle Lever to Solenoid
5	510-0073	1	*Bearing, Idle Lever	25	526-0115	1	Washer, Flat (11/32 ID x 11/16 OD x 1/16" Thk)
6	150-0639	1	Joint, Ball - Idle Lever to Spring	26	815-0178	1	Screw (10-32 x 5/8")
7	145-0241	1	Link Solenoid	27	870-0053	2	Nut, Hex (10-32)
8	508-0091	2	Bushing, Solenoid Plunger (9/64 ID x 3/8" OD)	28	115-0025	2	Nut, Hex (Special)
9	516-0125	1	Pin, Link-to-Solenoid (1/8 x 1-1/2")	29	850-0040	1	Washer, Lock (1/4)
10	815-0231	1	Bolt, Stripper (1/4-20 x 3/4") - Idle Lever	30	862-0001	1	Nut, Hex (1/4-20)
11	150-0793	1	Link, Idle Control	31	870-0131	2	Nut, Lock (10-32)
12	150-0115	1	Spring, Idle Control	32	812-0100	8	Screw (10-24 x 1/2")
13	150-0796	1	Stud, Idle Control	33	860-0011	2	Nut, Hex (10-24)
14	518-0192	3	Clip, Angle - Solenoid Mounting	34	850-0030	2	Washer, Lock (#10)
15	308-0002	1	Switch, Idle Solenoid	35	813-0102	2	Screw (10-32 x 5/8") - Bracket Mounting
16	302-0147	1	Transformer	36	813-0103	1	Screw (10-32 x 3/4") - Bracket Mounting
17	307-0062	1	Relay, Idle Control				
18	323-0321	1	Socket Relay - Idle Control				
19	332-0406	1	Block, Terminal (3 Place)				

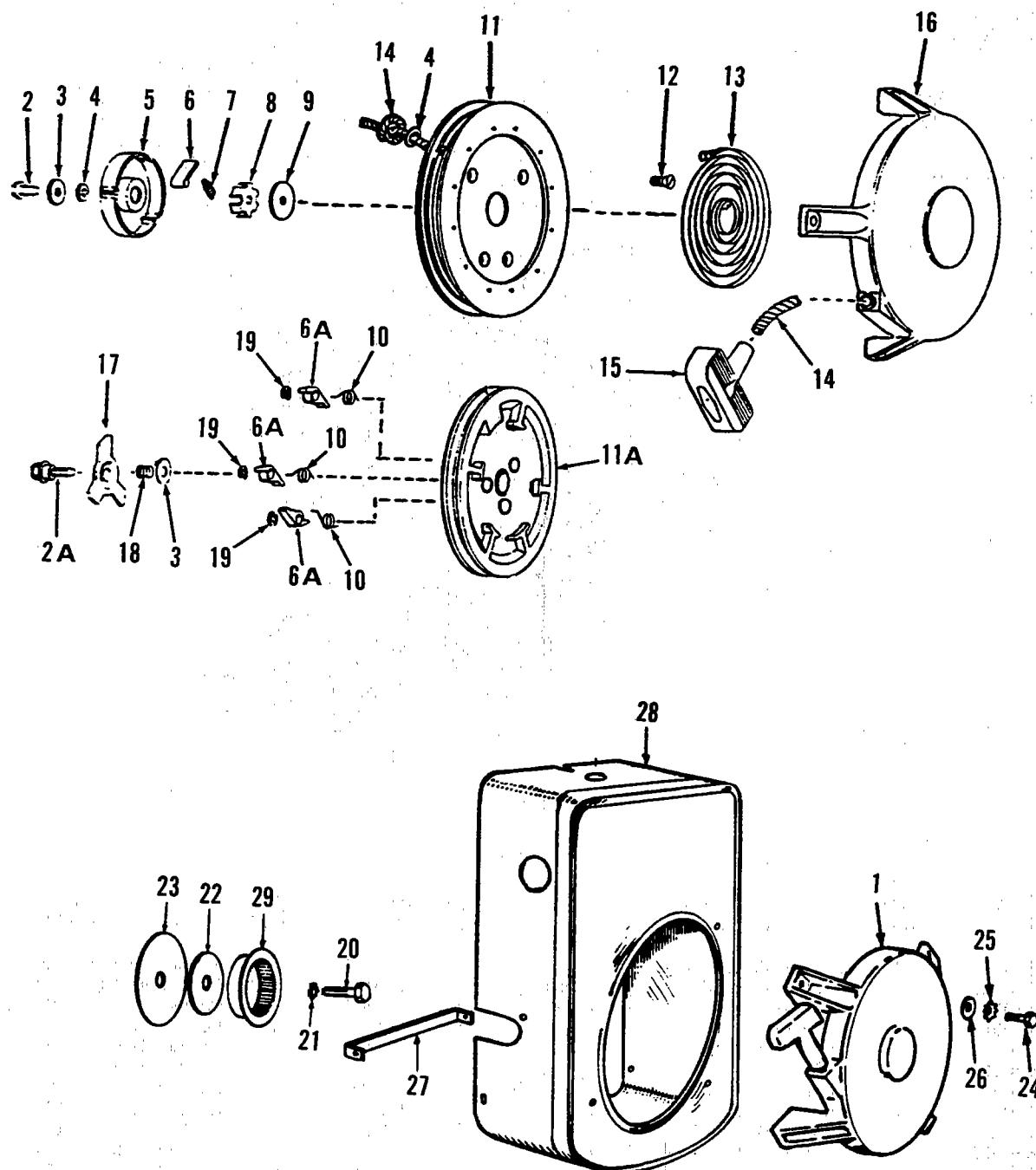
* - Prior to Serial 740,000 during Spec G Order
 150-0972 Bracket and Lever Control (Kit).

**Dolly Parts - Keys 1, 4, 6, 10
- Optional**



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	410-0219	1	Dolly, Complete	10	850-0050	4	Washer, Lock - Spring (3/8")
2	410-0216	1	Base and Handle, Right Side	11	862-0003	4	Nut, Hex (3/8-16)
3	410-0215	1	Base and Handle, Left Side	12	850-0045	2	Washer, Lock - Spring (5/16")
4	402-0040	2	Cushion, Rubber	13	862-0015	2	Nut, Hex (5/16-18)
5	403-0205	2	Grip, Rubber	14	814-0203	2	Screw, Machine - Flat Head (3/8-16 x 2")
6	410-0222	1	Axle	15	850-0050	4	Washer, Lock - Spring (3/8")
7	410-0223	2	Wheel and Tire	16	862-0003	4	Nut, Hex (3/8-16)
8	800-0058	4	Screw, Cap - Hex Head (3/8-16 x 3")	17	526-0112	4	Washer, Flat (11/16" ID x 1-3/8" OD x 7/64" Thk)
9	526-0030	4	Washer, Flat (13/32" ID x 7/8" OD x 1/8" Thk)	18	516-0042	2	Key, Cotter (1/8 x 1")

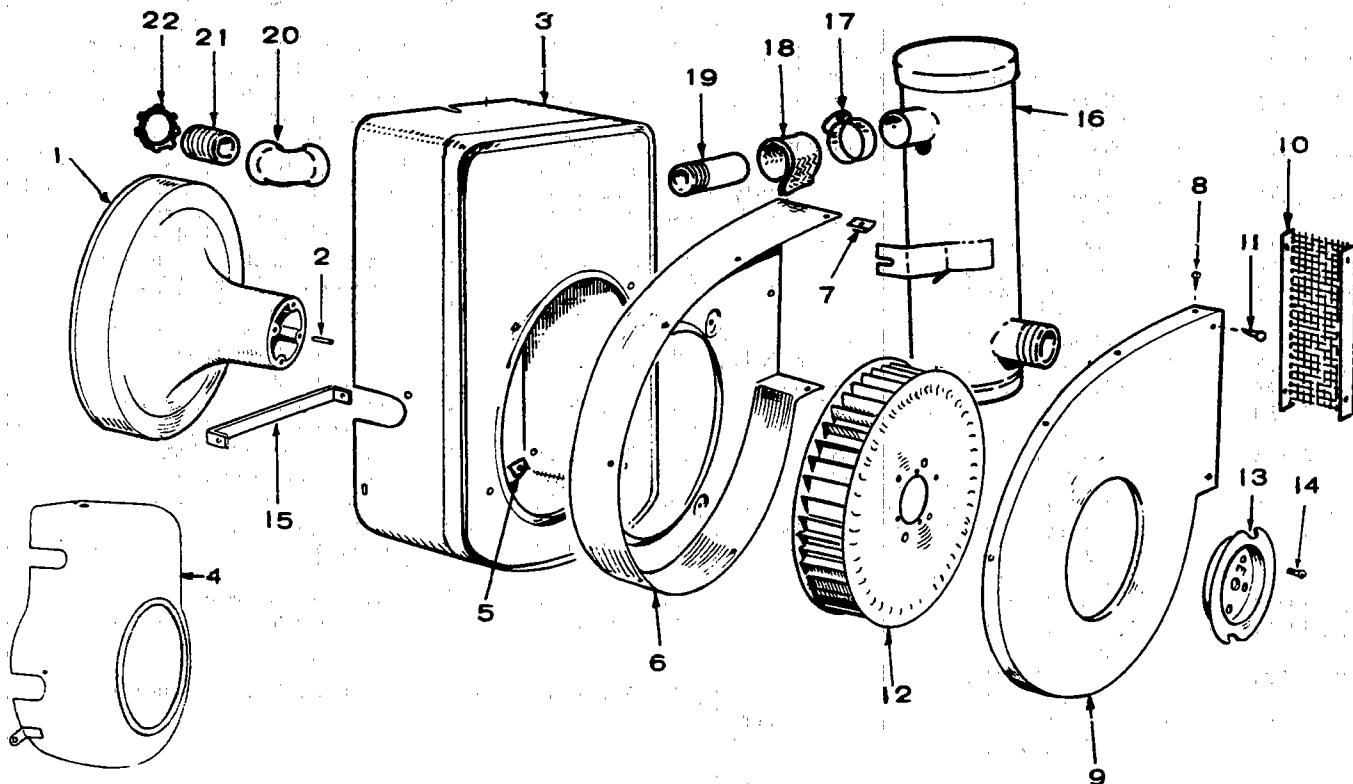
Readi-Pull Starter (Heavy Duty)
Includes Air Housing
- Optional



Readi-Pull Starter (Heavy Duty)
Includes Air Housing
- Optional

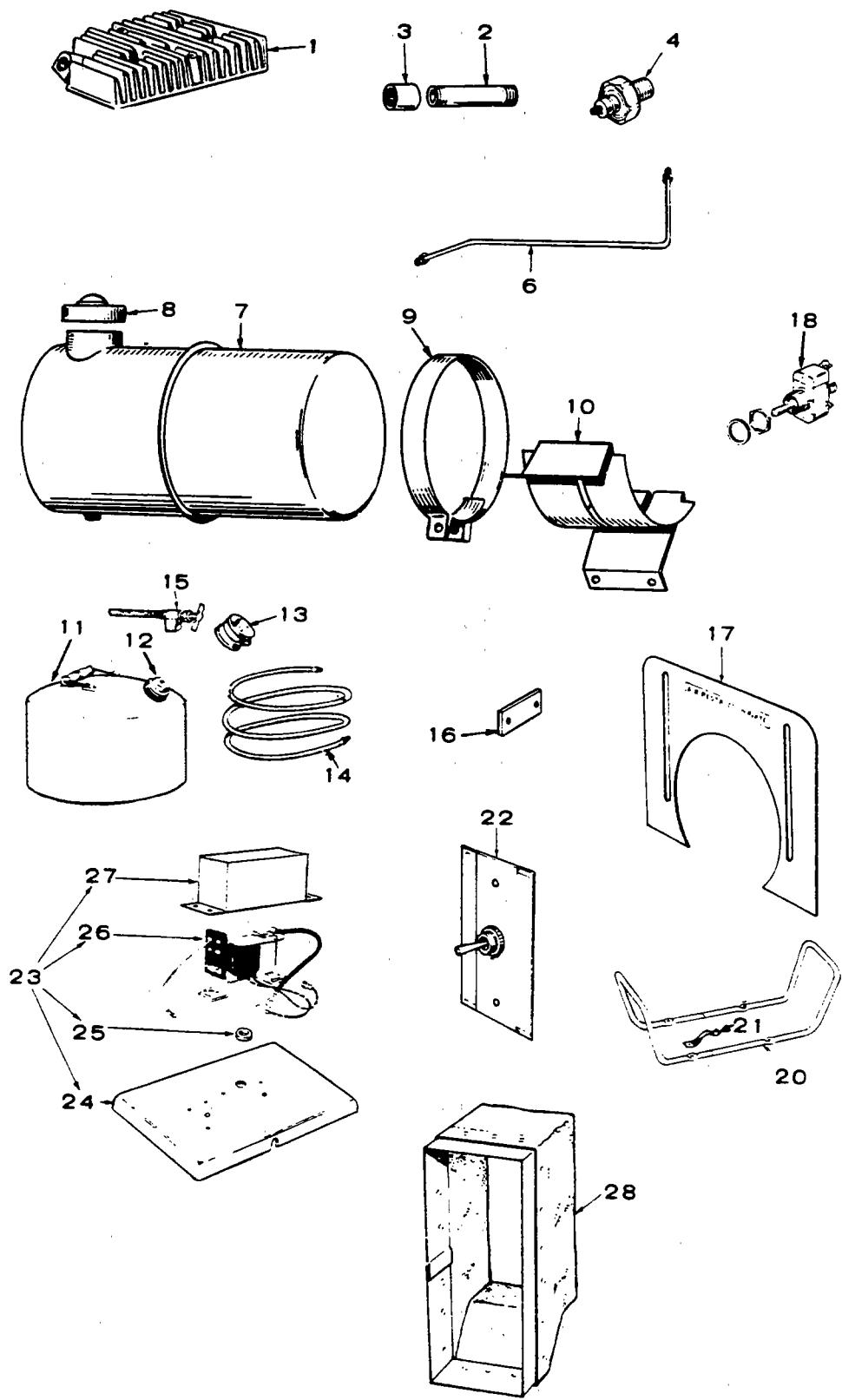
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	192-0363	1	Starter, Recoil - Heavy Duty (Includes Parts Marked *)	15	192-0282	1	*Handle Assembly, Starter (For Old and New Style)
2	192-0371	1	*Screw, Retainer (Old Style)	16	192-0383	1	*Housing, Starter (For Old and New Style)
2A	192-0423	1	*Screw, Retainer (New Style)	17	192-0429	1	*Cam, Dog (New Style Only)
3	192-0372	1	*Washer, Brake (For Old and New Style)	18	192-0430	1	*Spring, Brake (New Style Only)
4	192-0373	2	*Washer, Spacer (Old Style Only)	19	192-0431	3	*Ring, Retainer (New Style Only)
5	192-0374	1	*Retainer (Old Style Only)	20	800-0080	1	Screw, Cap - Hex Head (7/16-14 x 3-1/4")
6	192-0375	3	*Dog, Starter (Old Style)	21	856-0012	1	Washer, Lock - External Internal Tooth (7/16")
6A	192-0424	3	*Dog (New Style)	22	526-0172	1	Washer, Flat (1/2" ID x 2-1/4" OD x 1/4" Thk)
7	192-0376	1	*Spring, Retainer (Old Style Only)	23	526-0195	1	Washer, Flat (29/64" ID x 3-1/4" OD x 1/8" Thk)
8	192-0377	1	*Brake (Old Style Only)	24	800-0005	4	Screw, Cap - Hex Head (1/4-20 x 3/4")
9	192-0378	1	*Washer, Thrust (Old Style Only)	25	856-0006	4	Washer, Lock - External Internal Tooth (1/4")
10	192-0425	3	*Spring, Dog (New Style Only)	26	526-0021	4	Washer, Flat (17/64" ID x 3/4" OD x 1/16" Thk)
11	192-0380	1	*Pulley & Sheave Assembly (Old Style)	27	134-1697	1	Bracket, Support - Blower Housing
11A	192-0426	1	*Pulley & Sheave Assembly (Plastic) (New Style)	28	134-1698	1	Housing, Blower
12	192-0381	4	*Screw, Sheave (Early Production Only) (Old Style Only)	29	192-0364	1	Cup, Engaging - Starter
13	192-0382	1	*Spring, Rewind Old Style	* - Parts Included in 192-0363 Recoil Starter			
	192-0427	1	New Style				
14	192-0224	1	*Rope, Starter 114" Long x 3/16" Diameter (Old Style)				
	192-0428	1	114" Long x 11/64" Diameter (New Style)				

**Vacu-Flo Cooling System
(Includes Flywheel and Muffler)
- Optional**



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION	
1			Flywheel, Magneto Keys 1,2,3,10 Begin Spec G	11	815-0421	4	Screw, Cap - Hex Head Tapping W/ET Washer (#10-16 x 1/2")	
	160-0672	1	Specs A through F	12	134-0563	1	Wheel, Blower	
	160-0470	1	Keys 4,5,6,7,8,9 Begin Spec G	13	192-0261	1	Sheave, Rope	
	160-0729	1	Specs A through F	14	812-0150	2	Screw, Machine - Round Head (1/4-20 x 5/8")	
	160-0466	1	Begin Spec G	15	134-1014	1	Bracket, Blower Housing Support	
2	516-0091	2	Pin, Groove (3/16 x 1/2")	16	155-0696	1	Muffler, Exhaust - Begin Spec G	
3	134-1101	1	Housing, Blower - Begin Spec G.	17	503-0189	1	Clamp, Muffler - Begin Spec G	
4	134-0609	1	Housing, Blower - Specs A through F	18	895-0096	1	Asbestos Strip - Begin Spec G	
5			Nut, Speed (U Type) Begin Spec G	19	505-0431	1	Nipple, Half - Begin Spec G (3/4 x 6-1/2")	
	870-0126	3	Specs A through F	20	505-0132	1	Elbow, Pipe (3/4" x 90") - Begin Spec G	
6	870-0119	3	Scroll, Air - Rear Begin Spec G	21			Nipple, Pipe	
	134-1015	1	Specs A through F		505-0102	1	Begin Spec G (3/4 x Close)	
	134-0571	1	Specs A through F		505-0341	1	Specs A through F (3/4 x 5")	
7	870-0120	8	Nut, Speed (J Type)		22	331-0038	1	Locknut, Chase (Special)
8	809-0043	11	Screw, Tapping (#10 x 3/8")					
9	134-0570	1	Scroll, Air - Front					
10	134-3080	1	Guard, Scroll Outlet					

Miscellaneous Optional Parts



M-1365

Miscellaneous Optional Parts

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	110-1779	1	Head, Cylinder - High Compression (Gas Conversion Kit)	21			Strap, Ground - Blower Housing to Carrying Frame
2	505-0076	1	Nipple, Pipe - Oil Drain (3/8 x 3")	337-0044		1	Keys 1,4,6,10 (6")
3	505-0028	1	Coupling, Pipe - Oil Drain (3/8")	337-0051		1	Keys 5,8,9 (3")
4	309-0237	1	Switch, Low Oil Pressure	22	308-0165	1	Switch and Plate - Remote Start-Stop - Keys 2,8,9
6	159-0504	1	Line, Fuel - Tank to Filter - Keys 2,3 - Specs A through F	23	300-0224	1	Relay Assembly - Start Disconnect - Key 2 - Specs A through F with Load Transfer Control (Includes Parts Marked *)
7	159-0488	1	+Tank, Fuel (1.4 Gallons) - Keys 2,3 - Specs A through F	24	301-1492	1	*Cover, Control Box - Key 2 - Specs A through F with Load Transfer Control
8	159-0007	1	Cap, Fuel Tank - Keys 2,3 - Specs A through F	25	508-0002	1	*Grommet, Control Box Cover to Start Disconnect Relay - Key 2 - Specs A through F with Load Transfer Control
9	159-0154	2	+Band, Fuel Tank Mounting - Keys 2,3 - Specs A through F	26	307-0642	1	*Relay, Start Disconnect - Key 2 - Specs A through F with Load Transfer Control
10	159-0486	1	Bracket, Fuel Tank Mounting - Keys 2,3 - Specs A through F	27	301-1493	1	*Cover, Start Disconnect Relay - Key 2 - Specs A through F with Load Transfer Control
11	415-0126	1	Tank, Fuel (5 Gallon)	28	405-1058	1	Anti-Vibration Package - Vacu-Flo Cooled Units
12	415-0313	1	Cap, Fuel Tank				
13	415-0124	1	Cap, Rain - Fuel Tank				
14	501-0027	1	Line, Flexible (48")				
15	504-0013	1	Valve, Shut-off (with Strainer) - Fuel Tank				
16	149-0136	1	Cover, Fuel Pump Hole in Cylinder Block				
17	134-1438	1	Plate, Air Restriction - Key 3 (24 Volt) - Begin Spec J				
18	308-0097	1	Switch, Momentary - Low Oil Pressure Switch				
20			Frame, Carrying (Includes Attaching Hardware)				
	403-0365	1	Keys 1,4,6,10				
	403-1116	1	Keys 8,9				

* - Parts Included in 300-0224 Start Disconnect Relay Assembly.

+ - Parts Included in 159-0539 Kit.

Numerical Index

Part No.	Page	Part No.	Page	Part No.	Page	Part No.	Page
98-1100	36	110-0876	5	134-1438	55	143-0115	44
101-0233	5	110-0877	5	134-1534	19	143-0118	42
101-0252	5	110-0879	5	134-1697	19	143-0119	42
101-0257	5	110-1778	5	134-1697	51	143-0267	42
101-0290	5	110-1779	55	134-1698	19	143-0341	42
101-0290-02	5	112-0013	10	134-1698	51	145-0110	13
101-0290-10	5	112-0063	10	134-3080	52	145-0110	38
101-0290-20	5	112-0127	10	140-0369	13	145-0110	39
101-0290-30	5	112-0127-05	10	140-0408	13	145-0110	40
101-0367	5	112-0127-10	10	140-0441	13	145-0110	41
101-0404	5	112-0127-20	10	140-0443	13	145-0110	42
102-0018	6	112-0127-30	10	140-0446	13	145-0111	13
102-0319	6	112-0127-40	10	140-0469	13	145-0241	48
102-0439	6	113-0175	10	140-0587	13	145-0392	38
102-0452	6	113-0175-10	10	140-1269	13	145-0469	13
102-0455	6	113-0175-20	10	141-0078	13	145-0469	38
102-0455	31	113-0175-30	10	141-0078	38	145-0469	39
102-0689	25	113-0175-40	10	141-0078	39	145-0469	40
103-0013	7	114-0023	10	141-0078	40	145-0469	41
103-0141	7	114-0089	10	141-0078	41	146-0091	45
103-0222	7	114-0095	10	141-0703	42	146-0092	16
104-0048	8	114-0095-10	10	143-0015	42	146-0093	15
104-0050	8	114-0095-20	10	143-0030	42	146-0093	16
104-0091	29	114-0095-30	10	143-0030	44	146-0094	43
104-0091	33	115-0006	5	143-0036	42	146-0095	43
104-0237	8	115-0006-05	5	143-0077	42	146-0102	15
104-0237	22	115-0025	13	143-0078	42	146-0102	16
104-1276	8	115-0025	27	143-0080	42	146-0102	43
105-0004	9	115-0025	48	143-0081	42	146-0102	46
105-0139	9	120-0012	6	143-0097	42	146-0103	45
105-0377	9	120-0140	6	143-0097	44	146-0104	15
110-0008	5	120-0161	6	143-0098	42	146-0104	16
110-0068	5	120-0200	6	143-0098	44	146-0104	43
110-0284	5	120-0387	5	143-0099	42	146-0104	46
110-0284	7	120-0389	6	143-0100	42	146-0105	16
110-0441	5	120-0394	6	143-0100	44	146-0105	43
110-0445	5	120-0571	6	143-0101	42	146-0106	43
110-0540	5	123-0486	5	143-0105	42	146-0107	15
110-0558	5	123-0788	5	143-0109	42	146-0107	16
110-0609	5	134-0518	19	143-0109	44	146-0107	46
110-0826	5	134-0519	19	143-0110	42	146-0108	16
110-0826-02	5	134-0563	52	143-0110	44	146-0108	43
110-0826-05	5	134-0570	52	143-0111	42	146-0109	15
110-0826-10	5	134-0571	52	143-0111	44	146-0109	16
110-0826-25	5	134-0609	52	143-0112	42	146-0109	43
110-0827	5	134-1014	19	143-0112	44	146-0109	45
110-0828	5	134-1014	52	143-0113	42	146-0109	46
110-0832	5	134-1015	52	143-0114	42	146-0110	15
110-0836	5	134-1016	19	143-0114	44	146-0110	16
110-0840	5	134-1101	52	143-0115	42	146-0110	43

Numerical Index

Part No.	Page						
146-0110	46	146-0124	46	148-0522	41	150-0974	7
146-0111	15	146-0140	46	149-0003	11	150-1257	9
146-0111	16	146-0142	46	149-0003	13	150-1519	9
146-0111	43	146-0143	46	149-0079	13	150-1520	9
146-0111	46	146-0145	15	149-0095	11	150-1695	9
146-0112	15	146-0145	16	149-0096	11	153-0017	14
146-0112	16	146-0145	43	149-0136	40	153-0058	14
146-0112	43	146-0145	46	149-0136	41	153-0114	14
146-0112	45	146-0186	15	149-0136	55	153-0115	14
146-0112	46	146-0186	16	149-0149	13	153-0196	14
146-0113	15	146-0186	43	149-0150	13	153-0319	39
146-0113	16	146-0186	45	149-0202	13	153-0420	14
146-0113	43	146-0186	46	149-0404	11	155-0487	18
146-0113	46	146-0209	15	149-0526	11	155-0488	18
146-0114	16	146-0209	16	149-0539	11	155-0490	18
146-0114	43	146-0209	43	149-0551	11	155-0691	18
146-0116	15	146-0209	46	149-0561	13	155-0692	18
146-0116	16	146-0261	15	149-0582	11	155-0696	52
146-0116	43	146-0261	16	149-0672	11	155-0727	18
146-0116	46	146-0261	43	149-0675	11	159-0007	17
146-0117	15	146-0261	45	149-0693	11	159-0007	55
146-0117	16	146-0261	46	149-0710	11	159-0041	47
146-0117	43	146-0295	40	149-0858	11	159-0121	47
146-0117	46	146-0295	41	149-1110	13	159-0154	55
146-0118	15	146-0296	13	149-1784	13	159-0234	17
146-0118	16	146-0297	13	150-0033	7	159-0294	47
146-0118	43	146-0298	38	150-0075	9	159-0345	47
146-0118	45	146-0298	39	150-0077	9	159-0485	17
146-0118	46	146-0299	38	150-0078	9	159-0486	55
146-0119	15	146-0299	39	150-0098	7	159-0487	17
146-0119	16	148-0107	38	150-0098	48	159-0488	55
146-0119	43	148-0107	40	150-0115	48	159-0504	55
146-0119	45	148-0178	38	150-0140	7	159-0505	17
146-0119	46	148-0178	39	150-0156	7	159-0566	47
146-0120	15	148-0178	40	150-0177	7	159-0567	47
146-0120	16	148-0178	41	150-0198	7	159-0569	47
146-0120	43	148-0267	44	150-0213	7	159-0717	17
146-0120	46	148-0268	44	150-0213	48	159-0718	17
146-0122	15	148-0269	44	150-0575	7	159-0728	17
146-0122	16	148-0300	39	150-0578	7	159-1027	17
146-0122	43	148-0300	41	150-0620	7	159-1028	17
146-0122	45	148-0311	38	150-0638	48	159-1034	17
146-0122	46	148-0311	39	150-0639	48	159-1035	17
146-0123	15	148-0311	40	150-0786	7	160-0155	24
146-0123	16	148-0311	41	150-0789	7	160-0447	20
146-0123	43	148-0390	38	150-0792	48	160-0454	24
146-0124	15	148-0390	40	150-0793	48	160-0459	8
146-0124	16	148-0412	44	150-0794	48	160-0460	8
146-0124	43	148-0510	40	150-0795	48	160-0461	20
146-0124	45	148-0522	39	150-0796	48	160-0466	52

Numerical Index

Part No.	Page						
160-0470	52	192-0381	51	201-1346	31	212-0277	33
160-0478	20	192-0382	51	201-1347	31	212-0292	29
160-0487	24	192-0383	51	201-1348	31	212-0292	33
160-0540	24	192-0423	51	201-1364	31	212-0305	29
160-0672	52	192-0424	51	201-1512	27	212-0305	33
160-0729	52	192-0425	51	201-1513	27	212-0378	29
166-0254	20	192-0426	51	201-1525	27	212-0401	33
167-0064	24	192-0427	51	201-1526	27	212-1003	29
167-0067	24	192-0428	51	203-0049	27	212-1003	33
167-0237	24	192-0429	51	203-0053	27	212-1011	33
167-0241	24	192-0430	51	203-0059	27	212-1064	29
167-1272	24	192-0431	51	203-0111	27	212-1064	33
168-0062	36	192-0447	22	203-0112	27	212-1105	29
192-0023	8	201-0677	27	203-0117	31	212-1105	33
192-0224	51	201-0679	31	203-0133	31	212-1106	29
192-0261	8	201-0688	27	204-0087	27	212-1162	33
192-0261	52	201-0693	27	204-0087	31	214-0001	33
192-0269	22	201-0721	27	204-0089	31	214-0009	29
192-0270	22	201-0753	31	204-0097	27	214-0039	29
192-0273	22	201-0795	31	204-0097	31	214-0041	29
192-0274	22	201-0798	27	204-0101	31	214-0047	29
192-0275	22	201-0799	31	205-0047	27	214-0059	29
192-0277	22	201-0800	31	205-0047	31	214-0059	33
192-0278	22	201-0810	31	205-0056	27	214-0070	33
192-0279	22	201-0811	31	205-0056	33	214-0072	29
192-0280	22	201-0812	31	210-0240	27	214-0072	33
192-0281	22	201-0829	31	210-0279	27	221-0110	27
192-0282	22	201-0853	31	210-0349	27	221-0112	31
192-0282	51	201-1043	31	210-1449	27	221-0114	27
192-0283	22	201-1044	31	210-1464	33	221-0125	27
192-0284	22	201-1071	27	210-1532	33	221-0135	31
192-0285	22	201-1072	27	210-1543	33	222-1400	27
192-0286	22	201-1073	27	210-1562	33	222-1407	27
192-0287	22	201-1075	27	210-1593	27	222-1411	27
192-0339	22	201-1093	27	210-1638	27	222-1419	31
192-0340	22	201-1100	31	210-1701	33	222-1561	31
192-0341	22	201-1106	31	210-1704	33	222-1573	27
192-0343	22	201-1109	27	210-1716	33	222-1574	27
192-0363	51	201-1117	31	210-1717	27	222-1583	27
192-0364	22	201-1137	31	210-1718	33	222-1592	27
192-0364	51	201-1140	31	210-1719	33	222-1598	31
192-0371	51	201-1141	31	210-1720	33	222-1605	27
192-0372	51	201-1164	31	210-1739	27	222-1643	31
192-0373	51	201-1180	31	212-0209	29	222-1644	31
192-0374	51	201-1189	27	212-0215	33	222-1689	27
192-0375	51	201-1190		212-0221	29	222-1690	27
192-0376	51	201-1191	31	212-0230	33	232-0596	29
192-0377	51	201-1224	31	212-0251	29	232-1197	29
192-0378	51	201-1343	31	212-0261	33	232-1197	33
192-0380	51	201-1344	31	212-0273	33	232-1214	29

Numerical Index

Part No.	Page						
232-1214	33	304-0120	20	330-0028	23	415-0126	55
232-1282	25	304-0168	20	330-0042	23	415-0313	55
232-1557	29	304-0268	35	330-0044	23	416-0077	35
232-1557	33	304-0304	20	331-0038	18	416-0133	35
234-0004	33	304-0315	20	331-0038	52	501-0027	39
234-0007	29	304-0321	20	332-0125	35	501-0027	41
234-0007	33	305-0235	35	332-0142	23	501-0027	55
234-0119	31	305-0473	29	332-0142	35	502-0002	13
234-0124	31	305-0473	33	332-0198	35	502-0002	17
234-0125	29	305-0474	29	332-0222	35	502-0002	47
234-0127	29	305-0474	33	332-0406	48	502-0003	13
234-0127	33	306-0028	35	332-0527	14	502-0004	47
234-0129	33	307-0061	35	332-0527	20	502-0020	13
234-0169	31	307-0062	48	332-0529	20	502-0050	47
234-0497	33	307-0112	35	332-0609	35	502-0055	38
300-0224	55	307-0180	35	333-0124	36	502-0055	39
301-0592	35	307-0185	35	336-0345	24	502-0055	40
301-1059	35	307-0496	35	337-0044	55	502-0055	41
301-1060	35	307-0604	48	337-0051	55	502-0082	13
301-1127	35	307-0642	35	337-0087	21	502-0082	38
301-1128	35	307-0642	55	358-0038	35	502-0082	39
301-1146	23	307-0669	48	363-0057	35	502-0082	40
301-1372	23	307-1046	35	402-0040	49	502-0082	41
301-1373	23	307-1978	35	402-0044	25	502-0116	47
301-1392	23	308-0002	35	402-0045	25	502-0313	17
301-1492	55	308-0002	48	402-0048	25	502-0440	13
301-1493	55	308-0029	35	402-0076	25	503-0027	39
301-1823	35	308-0097	55	402-0140	25	503-0027	41
301-1829	35	308-0154	35	402-0141	25	503-0032	38
301-1858	35	308-0155	35	402-0142	25	503-0032	40
301-1868	35	308-0165	55	402-0144	25	503-0189	18
301-1870	23	308-0166	35	402-0170	21	503-0189	52
301-1898	48	309-0237	55	402-0171	21	503-0315	38
301-1983	23	312-0017	29	402-0229	25	503-0315	40
301-3395	35	312-0017	33	403-0205	49	503-0685	17
301-3408	35	312-0019	20	403-0365	55	503-0736	5
301-4659	35	312-0033	24	403-0381	25	503-0754	17
301-4660	35	312-0058	29	403-0743	21	504-0013	47
302-0147	48	312-0058	33	403-0744	21	504-0013	55
302-0270	35	313-0018	24	403-1116	55	505-0016	47
302-1360	35	313-0034	24	405-1058	55	505-0017	38
302-1363	35	322-0011	23	405-2243	36	505-0017	40
302-1364	35	322-0021	23	410-0215	49	505-0021	39
302-1899	48	322-0022	23	410-0216	49	505-0021	41
304-0002	35	322-0059	23	410-0219	49	505-0028	47
304-0011	20	323-0213	23	410-0222	49	505-0028	55
304-0014	20	323-0321	48	410-0223	49	505-0029	18
304-0046	35	323-0383	23	412-0004	36	505-0038	38
304-0047	20	330-0005	23	415-0055	47	505-0038	40
304-0066	35	330-0016	23	415-0124	55	505-0051	18

Numerical Index

Part No.	Page						
505-0054	6	518-0012	8	800-0016	33	821-0018	24
505-0057	38	518-0129	7	800-0028	5	850-0025	13
505-0057	40	518-0129	11	800-0030	27	850-0025	24
505-0057	41	518-0192	48	800-0034	7	850-0025	33
505-0057	47	518-0205	22	800-0053	6	850-0030	13
505-0076	55	520-0056	27	800-0058	49	850-0030	14
505-0099	38	520-0056	31	800-0080	51	850-0030	29
505-0099	40	520-0274	27	806-0008	13	850-0030	48
505-0102	52	520-0275	27	806-0027	6	850-0040	6
505-0110	6	520-0279	27	809-0035	35	850-0040	17
505-0130	5	520-0280	31	809-0043	52	850-0040	24
505-0130	38	520-0285	31	809-0044	22	850-0040	27
505-0130	40	520-0363	5	812-0014	42	850-0040	29
505-0132	52	520-0363	27	812-0014	44	850-0040	33
505-0274	6	520-0363	31	812-0059	24	850-0040	48
505-0302	38	520-0526	5	812-0075	24	850-0045	5
505-0302	40	520-0536	31	812-0076	35	850-0045	7
505-0332	18	520-0538	13	812-0077	24	850-0045	49
505-0341	52	520-0563	31	812-0082	13	850-0046	25
505-0431	52	520-0632	5	812-0086	13	850-0048	6
508-0001	17	522-0215	36	812-0100	48	850-0050	6
508-0002	55	522-0232	36	812-0150	52	850-0050	29
508-0091	48	525-0137	36	813-0102	48	850-0050	33
508-0098	23	525-0305	36	813-0103	48	850-0050	49
508-0109	35	526-0017	8	813-0112	20	850-0055	8
509-0008	7	526-0021	51	814-0203	49	850-0055	22
509-0012	7	526-0029	29	815-0110	14	853-0003	24
509-0041	5	526-0029	33	815-0122	24	853-0005	35
509-0065	11	526-0030	49	815-0147	11	853-0008	20
509-0135	13	526-0041	25	815-0148	11	853-0013	13
510-0008	7	526-0063	5	815-0171	22	854-0007	24
510-0013	7	526-0063	13	815-0178	48	854-0010	13
510-0014	7	526-0063	20	815-0179	22	854-0014	10
510-0015	9	526-0065	5	815-0179	27	856-0003	19
510-0047	27	526-0112	49	815-0181	19	856-0003	22
510-0047	31	526-0115	48	815-0181	27	856-0006	51
510-0073	48	526-0122	5	815-0181	33	856-0012	51
510-0083	42	526-0127	6	815-0187	20	860-0011	48
515-0001	8	526-0141	8	815-0208	17	862-0001	48
515-0001	9	526-0141	22	815-0230	44	862-0003	49
515-0113	8	526-0142	22	815-0231	48	862-0015	25
516-0012	5	526-0172	51	815-0261	19	862-0015	49
516-0036	7	526-0195	51	815-0290	19	870-0053	7
516-0042	49	526-0214	24	815-0333	19	870-0053	13
516-0091	52	800-0003	20	815-0391	7	870-0053	20
516-0113	11	800-0005	17	815-0421	52	870-0053	48
516-0117	7	800-0005	51	816-0110	25	870-0119	22
516-0125	48	800-0007	6	816-0111	25	870-0119	52
517-0048	5	800-0015	5	816-0114	25	870-0120	52
518-0004	7	800-0016	29	821-0013	17	870-0126	52

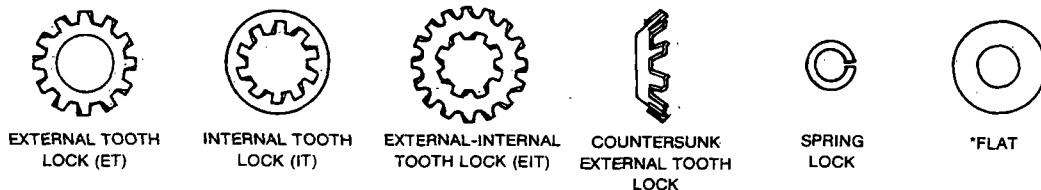
Numerical Index

Part No.	Page						
870-0131	7						
870-0131	48						
870-0196	35						
870-0221	35						
895-0096	18						
895-0096	52						

HARDWARE IDENTIFICATION

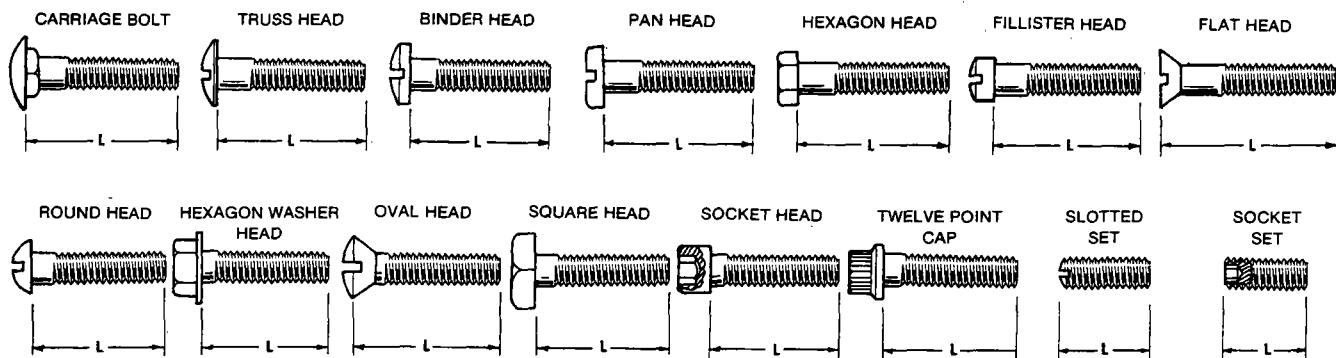
Illustrated hardware items are only for identification purposes. All hardware items listed throughout this parts catalog are steel SAE grade five (5) or lower (zinc plated with clear chromate dip) unless parts description indicates differently. All dimensions are in inches.

WASHER TYPES



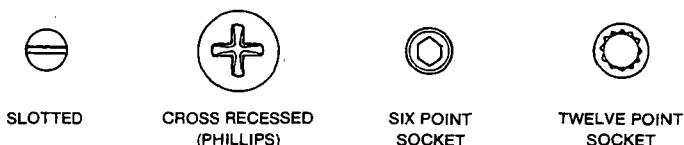
* - Flat washer dimensions given are: Inside Diameter (ID), Outside Diameter (OD) and Thickness (Thk).

BOLT AND SCREW TYPES



L - Measure length between these points.

INTERNAL DRIVE TYPES



1/4-20 x 3/4"

Nominal size (fractional diameter or screw number)

Number of threads per inch

Length in inches

NUT TYPES

